

# JVC

## SERVICE MANUAL

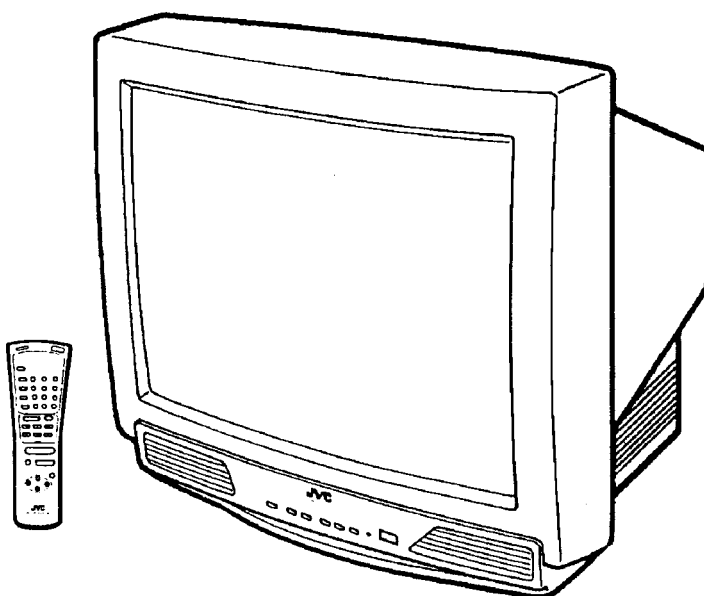
### COLOR TELEVISION

# AV-27820

(US&amp;CA)

BASIC CHASSIS

FA



## CONTENTS

■ SPECIFICATIONS .....	2
■ SAFETY PRECAUTIONS .....	3
■ FEATURES .....	4
■ DIFFERENCE LIST OF MAIN PARTS .....	4
■ OPERATING INSTRUCTIONS .....	5
■ SPECIFIC SERVICE INSTRUCTIONS .....	6
■ SERVICE ADJUSTMENTS .....	11
★ STANDARD CIRCUIT DIAGRAM(APPENDED) .....	2-1~2-16
■ PARTS LIST .....	23

# SPECIFICATIONS

Item	Content
Dimensions (W × H × D)	25-7/8" × 23-1/8" × 20-1/2" / 65.5cm × 58.6cm × 51.8cm
Mass	72.8lbs / 33kg
TV System and Color system	
TV RF System	CCIR (M)
Color System	NTSC
Sound System	BTSC (Multi Channel Sound)
TV Receiving Channels and Frequency	
VL Band	(02 ~ 06) 54MHz ~ 88MHz
VH Band	(07 ~ 13) 174MHz ~ 216MHz
UHF Band	(14 ~ 69) 470MHz ~ 806MHz
CATV Receiving Channels and Frequency	
(Quartz Synthesizer system)	
Low Band	(02 ~ 06, A-8) by (02 ~ 06&01)
High Band	(07 ~ 13) by (07 ~ 13)
Mid Band	(A ~ 1) by (14 ~ 22)
Super Band	(J ~ W) by (23 ~ 36)
Hyper Band	(W + 1 ~ W + 28) by (37 ~ 64)
ULTRA Band	(W + 29 ~ W + 84) by (65 ~ 125)
Sub Mid Band	(A8, A4 ~ A1) by (01, 96 ~ 99)
TV/CATV Total Channel	180 Channels
Intermediate Frequency	
Video IF Carrier	45.75MHz
Sound IF Carrier	41.25MHz (4.5MHz)
Color Sub Carrier	3.58MHz
Antenna Input Impedance	75Ω (VHF/UHF) Terminal, F-Type Connector
Power Input	120V AC, 60Hz
Power Consumption	95W(US) / 1.6A(CA)
Picture Tube	27"(68cm) Measured diagonally full square
Viewable Picture Size (W × H)	21-5/16" × 16" / 54.1cm × 40.6cm
High Voltage	29kV ± 1kV (at zero beam current)
Speaker	2" × 4-11/16" (5 × 12cm) oval type × 2
Audio Power Output	1.5W × 2
Video Input	1Vp-p, 75Ω
Audio Input	500mVrms(-4dBs), high impedance
Variable Audio output	More than 0 to 1550mVrms ( + 6dBs), Low impedance (400Hz when modulated 100%)
Remote Control Unit	RM-C746-1C (AA/R6/UM-3 dry battery × 2)

*Design & specification subject to change without notice.*

# SAFETY PRECAUTIONS

1. The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (▲) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.
4. **Use isolation transformer when hot chassis.**  
The chassis and any sub-chassis contained in some products are connected to one side of the AC power line. An isolation transformer of adequate capacity should be inserted between the product and the AC power supply point while performing any service on some products when the HOT chassis is exposed.
5. **Don't short between the LIVE side ground and ISOLATED(NEUTRAL) side ground or EARTH side ground when repairing.**  
Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND, the ISOLATED(NEUTRAL) : (⌚) side GND and EARTH : (⊕) side GND. Don't short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND and never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND at the same time.  
If above note will not be kept, a fuse or any parts will be broken.
6. If any repair has been made to the chassis, it is recommended that the B<sub>1</sub> setting should be checked or adjusted (See ADJUSTMENT OF B<sub>1</sub> POWER SUPPLY).
7. The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.
8. Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10k $\Omega$  2W resistor to the anode button.
9. When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

## 10. Isolation Check

### (Safety for Electrical Shock Hazard)

After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screwheads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

### (1) Dielectric Strength Test

The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 1100V AC (r.m.s.) for a period of one second.

(... Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)

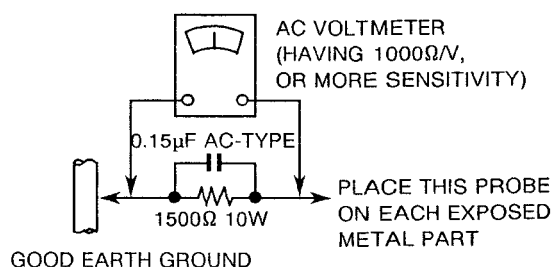
This method of test requires a test equipment not generally found in the service trade.

### (2) Leakage Current Check

Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).

#### • Alternate Check Method

Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500 $\Omega$  10W resistor paralleled by a 0.15 $\mu$ F AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.35V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).



## 11. High voltage hold down circuit check.

After repair of the high voltage hold down circuit, this circuit shall be checked to operate correctly.

See item "How to check the high voltage hold down circuit".




This mark shows a fast operating fuse, the letters indicated below show the rating.



# FEATURES

- New chassis design enables use of a single board with simplified circuitry.
- Provided with miniature tuner ( TV/CATV ).
- PLL synthesizer system TV/CATV totaling 180 channels.
- Multifunctional remote control permits picture adjustment.
- Adoption of the CHANNEL GUARD function prevents the specific channels from being selected, unless the "ID number" is key in.
- Adoption of the VIDEO STATUS function.
- Adoption of the ON/OFF TIMER function.
- With 75Ω V/U in common ( F-Type ) ANT Terminal.
- SLEEP TIMER for setting in real time.
- Closed-caption broadcasts can be viewed.
- Audio Video input terminal.
- Variable Audio output terminal.

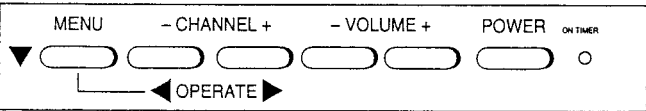
## DIFFERENCE LIST OF MAIN PARTS

	Part name	AV-27820(US)	AV-27820(CA)
	RATING LABEL	CM23034-001-A	CM22999-001-A
	INST BOOK (FRENCH)	×	CQ40357-001-A
	REGI.CARD	BT-51006-1Q	×
	WARRANTY CARD	×	BT-52002-1Q
	SVC CENTER LIST	×	BT-20071B-Q

# OPERATING INSTRUCTIONS

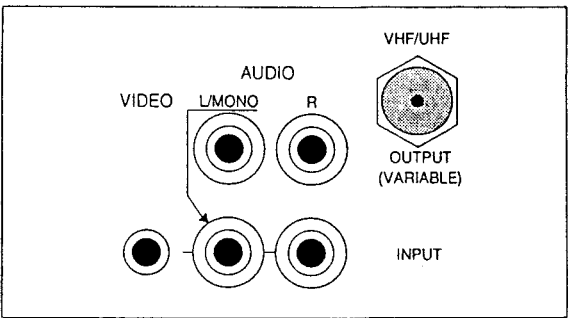
- The operating instructions are the same as for C-13810(US&CA),C-13811(US&CA) (No.51190). Therefore, please refer to the C-13810(US&CA),C-13811(US&CA) (No.51190) SERVICE MANUAL for detailed instructions.

## FRONT PANEL DIAGRAM



27 Inch Front Panel

## REAR PANEL DIAGRAM



AV-27820

## REMOTE CONTROL



RM-C746

□ Illustration of AV-27820. The configuration is the same for both models but there are some labeling differences.

# SPECIFIC SERVICE INSTRUCTIONS

## DISASSEMBLY PROCEDURE

### REMOVING THE REAR COVER

1. Unplug the power supply cord.
2. Remove the seven screws marked (A) and a screw marked (B) as shown in Fig. 1.

\* When reinstalling the rear cover, carefully push it inward after inserting the chassis into the rear cover groove.

### REMOVING THE CHASSIS

- After removing the rear cover.
1. Slightly raise the both sides of the chassis by hand and remove the two claws under the both sides of the chassis from the front cabinet.
  2. Draw the chassis backward along the rail in the arrow direction marked (C) as shown in the Fig. 1.  
(If necessary, take off the wire clamp, connectors etc.)
- When conducting a check with power supplied, be sure to confirm that the CRT earth wire is connected to the CRT SOCKET PWB and the MAIN PWB.

### REMOVING THE FRONT CONTROL PW BOARD

- After removing the rear cover & chassis.
1. Remove the two screws marked (D) as shown in Fig. 1.
  2. Remove the FRONT CONTROL PW BOARD toward you.

### CHECKING THE MAIN PW BOARD

1. To check the back side of the MAIN PW Board.
  - 1) Pull out the chassis. (Refer to REMOVING THE CHASSIS).
  - 2) Erect the chassis vertically so that you can easily check the back side of the MAIN PW Board.

#### [CAUTION]

- When erecting the chassis, be careful so that there will be no contacting with other PWB.
- Before turning on power, make sure that the wire connector, CRT earth wire and other connectors properly connected.

### WIRE CLAMPING AND CABLE TYING

1. Be sure to clamp the wire.
2. Never remove the cable tie used for tying the wires together.  
Should it be inadvertently removed, be sure to tie the wires with a new cable tie.

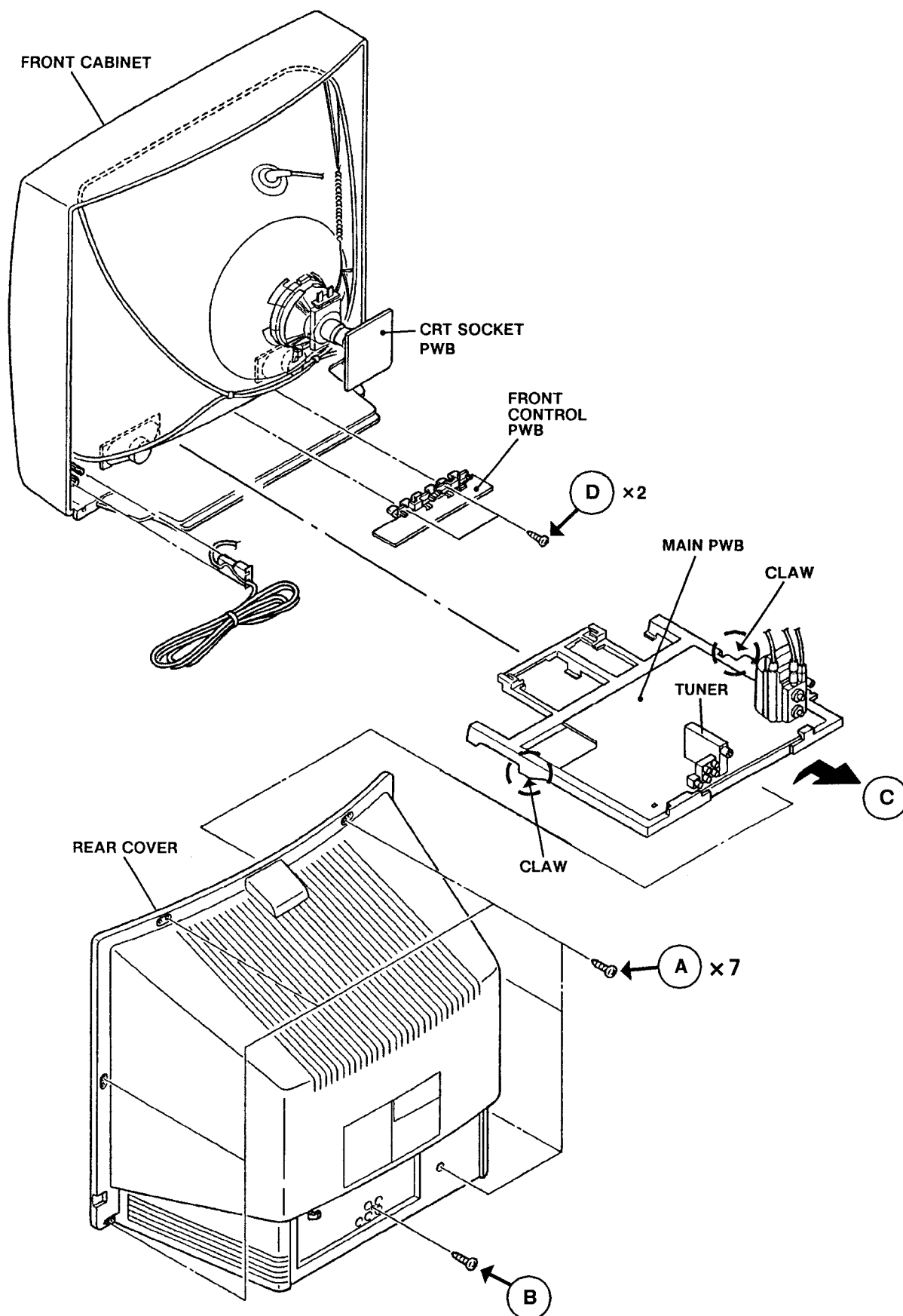


Fig. 1

# MEMORY IC REPLACEMENT

## 1. Memory IC

This model use a memory (EEP-ROM) IC.

The memory IC stores data for proper operation of the video and deflection circuits.

When replacing, be sure to use an IC containing this (initial value) data.

## 2. Memory IC replacement procedure

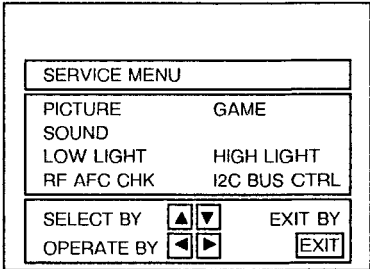
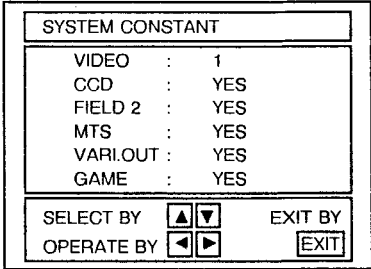
Procedure	Screen display
<b>(1) Power off</b> Switch off the power and disconnect the power cord from the outlet.	
<b>(2) Replace the memory IC.</b> Initial value must be entered into the new IC.	
<b>(3) Power on</b> Connect the power cord to the outlet and switch on the power.	
<b>(4) System constant check and setting</b> <ol style="list-style-type: none"> <li>1) Simultaneously press the DISPLAY key and VIDEO STATUS key of the remote control unit.</li> <li>2) The SERVICE MENU screen of Fig. 1 is displayed.</li> <li>3) While the SERVICE MENU is displayed, again simultaneously press the DISPLAY and VIDEO STATUS keys to display the Fig. 2 SYSTEM CONSTANT screen.</li> <li>4) Refer to the SYSTEM CONSTANT table and check the setting items. Where these differ, select the setting item with the MENU UP / DOWN key and adjust the setting with the MENU LEFT / RIGHT keys.(The letters of the selected item are displayed in yellow.)</li> <li>5) After adjusting, release the MENU LEFT / RIGHT key to store the setting value.</li> <li>6) Press the EXIT key twice to return the normal screen.</li> </ol>	 <p>Fig. 1</p>  <p>Fig. 2</p>
<b>(5) Receive channel setting</b> Refer to the OPERATING INSTRUCTIONS(USER'S GUIDE) and set the receive channels (Channels Preset) as described.	
<b>(6) User settings</b> Check the user setting items According to Table 2. Where these do not agree, refer to the OPERATING INSTRUCTIONS(USER'S GUIDE) and set the items as described.	
<b>(7) SERVICE MENU setting</b> Verify what to set in the SERVICE MENU, and set whatever is necessary. (Fig. 1) refer to the SERVICE ADJUSTMENT for setting.	

TABLE 1 (System Constant setting)

Setting item	Setting content	Setting value
VIDEO	<input type="checkbox"/> 0 → <input type="checkbox"/> 1 → <input type="checkbox"/> 2	1
CCD	<input type="checkbox"/> YES → <input type="checkbox"/> NO	YES
FIELD 2	<input type="checkbox"/> YES → <input type="checkbox"/> NO	YES
MTS	<input type="checkbox"/> YES → <input type="checkbox"/> NO	YES
VARI.OUT	<input type="checkbox"/> YES → <input type="checkbox"/> NO	YES
GAME	<input type="checkbox"/> YES → <input type="checkbox"/> NO	YES

Fig. 1

TABLE 2 (User setting values)

Setting item	Setting value
1. Use remote controller keys POWER CHANNEL CHANNEL PRESET VOLUME TV/VIDEO DISPLAY SLEEP TIMER VIDEO STATUS CLOSED CAPTION	OFF CH 02 Set the receive channels. 10 TV OFF 0 STANDARD OFF
2. Setting from MENU TINT COLOR PICTURE BRIGHT DETAIL	CENTER CENTER CENTER CENTER CENTER
NOISE MUTE SET VIDEO STATUS	ON ALL CENTER
BASS TREBLE BALANCE MTS TV SPEAKER	CENTER CENTER CENTER STEREO ON
SET CLOCK ON/OFF TIMER CHANNEL SUMMARY SET LOCK CODE	Unnecessary to set NO SET OPTIONALLY Unnecessary to set
TUNER MODE BACKGROUND CLOSED CAPTION LANGUAGE	AIR BLACK CAPTION : CC1    TEXT : T1 ENG

Fig. 2

## REPLACEMENT OF CHIP COMPONENT

### ■CAUTIONS

1. Avoid heating for more than 3 seconds.
2. Do not rub the electrodes and the resist parts of the pattern.
3. When removing a chip part, melt the solder adequately.
4. Do not reuse a chip part after removing it.

### ■SOLDERING IRON

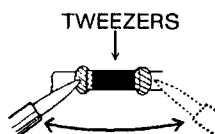
1. Use a high insulation soldering iron with a thin pointed end of it.
2. A 30w soldering iron is recommended for easily removing parts.

### ■REPLACEMENT STEPS

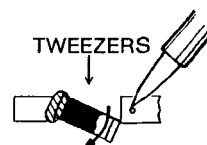
#### 1. How to remove Chip parts

##### ●Resistors, capacitors, etc

- (1) As shown in the figure, push the part with tweezers and alternately melt the solder at each end.

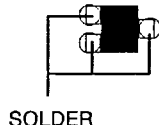


- (2) Shift with tweezers and remove the chip part.

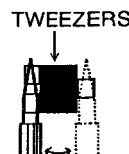


##### ●Transistors, diodes, variable resistors, etc

- (1) Apply extra solder to each lead.



- (2) As shown in the figure, push the part with tweezers and alternately melt the solder at each lead. Shift and remove the chip part.

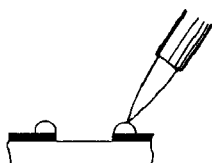


**Note:** After removing the part, remove remaining solder from the pattern.

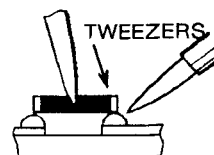
#### 2. How to install Chip parts

##### ●Resistors, capacitors, etc

- (1) Apply solder to the pattern as indicated in the figure.



- (2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.



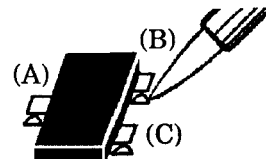
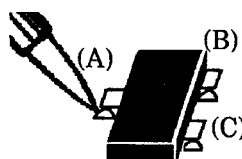
##### ●Transistors, diodes, variable resistors, etc

- (1) Apply solder to the pattern as indicated in the figure.

- (2) Grasp the chip part with tweezers and place it on the solder.

- (3) First solder lead A as indicated in the figure.

- (4) Then solder leads B and C.





# BASIC OPERATION OF SERVICE MENU

## 1. TOOL OF SERVICE MENU OPERATION

Operate the SERVICE MENU with the REMOTE CONTROL UNIT.

## 2. SERVICE MENU ITEMS

In general, the basic setting (adjustments) items or verifications are performed in the SERVICE MENU.

- PICTURE ..... This sets the setting values (adjustment values) of the VIDEO/CHROMA and DEFLECTION circuits.
- GAME ..... This is used when the GAME MODE is adjusted.
- SOUND ..... This sets the setting values (adjustment values) of the AUDIO circuit.
- LOW LIGHT ... This sets the setting values (adjustment values) of the WHITE BALANCE circuit.
- HIGH LIGHT ... This sets the setting values (adjustment values) of the WHITE BALANCE circuit.
- RF AFC CHK .. This is used when the IF VCO is adjusted.
- I2C BUS CTRL . This is used when ON/OFF of the I2C BUS CTRL is set.  
[Fixed ON]

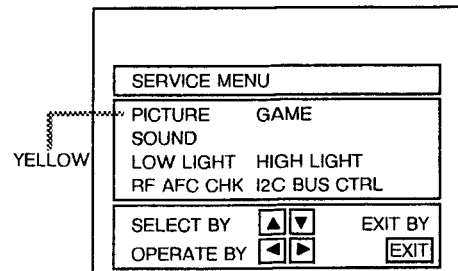


Fig. 1

## 3. BASIC OPERATIONS OF THE SERVICE MENU

### (1) How to enter the SERVICE MENU.

- 1) Press the DISPLAY KEY and VIDEO STATUS KEY of the REMOTE CONTROL UNIT at the same time to display the SERVICE MENU screen shown in Fig.1.

### (2) SERVICE MENU screen selection

- 1) Press the UP / DOWN key of the MENU to select any of the following items. (The letters of the selected items are displayed in yellow.)

- PICTURE      • GAME      • SOUND      • LOW LIGHT
- HIGH LIGHT   • RF AFC CHK   • I2C BUS CTRL

- 2) Select either PICTURE or SOUND. The screen shown in Fig.2 will be displayed if the LEFT / RIGHT KEY is pressed.

- 3) If the UP / DOWN KEY is pressed, the PICTURE MODE screen shown in Fig.3 or the SOUND MODE screen shown in Fig.4 is displayed and the PICTURE or SOUND setting can be performed.

- 4) If any of the GAME / LOW LIGHT / HIGH LIGHT / RF AFC CHK / I2C BUS CTRL items are selected and the LEFT / RIGHT KEY is pressed, the screens shown in Fig. 5, 6, 7, 8 and 9 are displayed respectively and the settings or verifications can be performed.

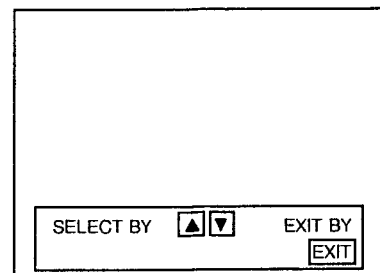


Fig. 2

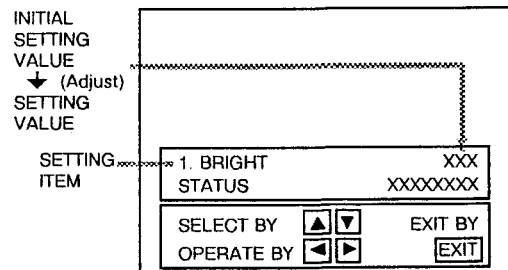


Fig. 3 PICTURE MODE

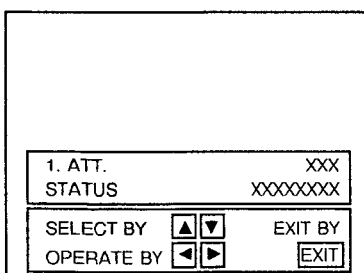


Fig. 4 SOUND MODE

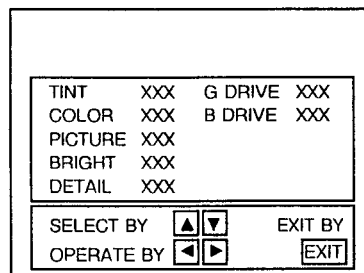


Fig. 5 GAME MODE

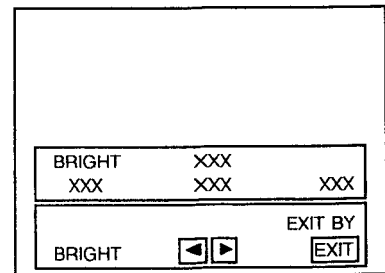


Fig. 6 LOW LIGHT MODE

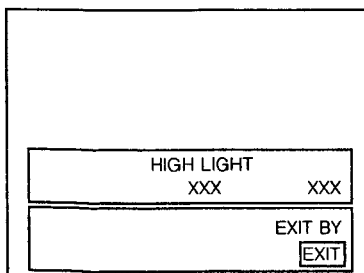


Fig. 7 HIGH LIGHT MODE

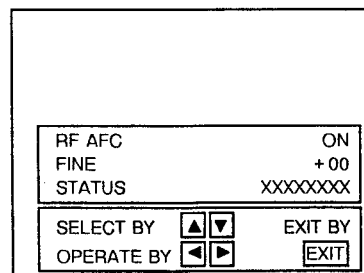


Fig. 8 RF AFC CHK MODE

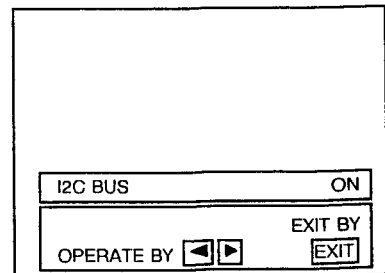
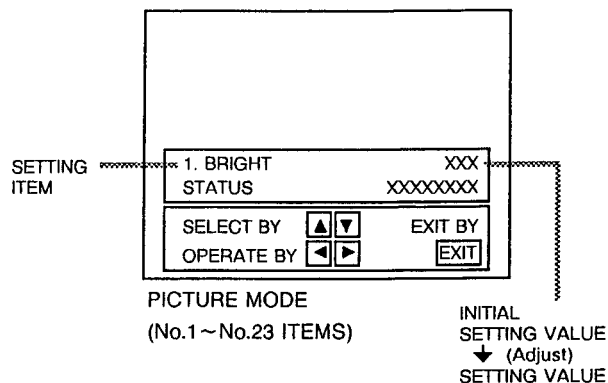


Fig. 9 I2C BUS CTRL MODE [Fixed ON]

**(3) Setting method**

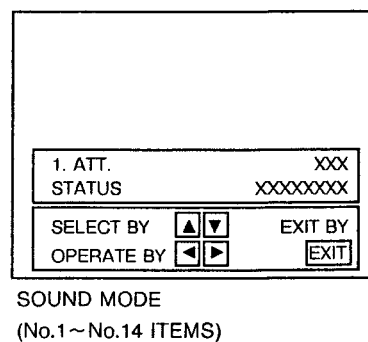
- 1) UP/DOWN key of the MENU  
Selects the SETTING ITEM
- 2) LEFT/RIGHT key of the MENU  
Setting (adjust) the SETTING VALUE of the SETTING ITEM.  
When the key is released the SETTING VALUE will be stored (memorized).
- 3) EXIT key : Returns to the previous screen.

**(4) Releasing SERVICE MENU**

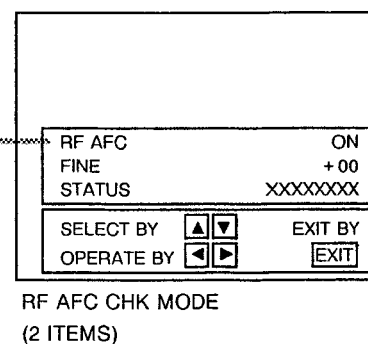
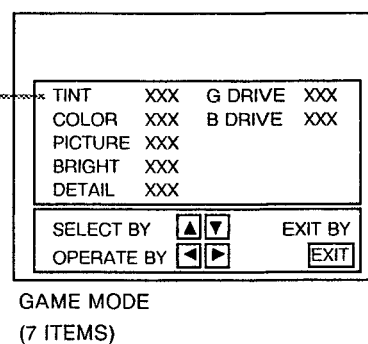
- 1) After returning to the SERVICE MENU upon completion of the setting (adjustment) work, press the EXIT key again.

★ The settings for LOW LIGHT and HIGH LIGHT are described in the WHITE BALANCE page of ADJUSTMENT.

★ The setting for RF AFC CHK are described in the IF VCO page of ADJUSTMENT.



[ The letters of the selected items are displayed in yellow. ]



## INITIAL SETTING VALUE OF SERVICE MENU

1. Adjustment of the SERVICE MENU is made on the basis of the initial setting values; however, the new setting values which set the screen in its optimum condition may differ from the initial setting.

2. Do not change the Initial Setting Values of the Setting (Adjustment) Items not listed in "ADJUSTMENT".

### ● PICTURE MODE

- The four setting items in the video mode - No.8 EXT BRI., No.9 EXT PIC., No.12 EXT TINT and No.13 EXT COL. are linked to the items in the TV Mode - No.1 BRIGHT, No.2 PICTURE, No.6 TINT and No.7 COLOR, respectively. When the setting items in the TV mode are adjusted, the values in the setting items in the video mode are revised automatically to the same values in the TV mode. (The initial setting values given in ( ) are off-set values.)
- When the four items (No.8, 9, 12 and 13) are adjusted in the vide mode, the setting values in each item are revised independently.

No.	Setting (Adjustment ) item	Variable range	Initial setting value
1.	BRIGHT	0 ~ 127	64
2.	PICTURE	0 ~ 127	90
3.	WPS(WHITE PEAK SUPPRESSOR)	0 ~ 1	0
4.	TV DTL(TV DETAIL)	0 ~ 63	21
5.	TV BPF(TV B.P.FILTER)	0 ~ 1	0
6.	TINT	0 ~ 127	62
7.	COLOR	0 ~ 127	64
8.	EXT BRI.	± 25	(0)
9.	EXT PIC.	± 25	(0)
10.	EXT DTL(EXT DETAIL)	0 ~ 63	25
11.	EXT BPF(EXT B.P.FILTER)	0 ~ 1	0
12.	EXT TINT	± 25	(0)
13.	EXT COL.	± 25	(0)
14.	V SIZE	0 ~ 63	40
15.	V CENT.(V.CENTER)	0 ~ 7	4
16.	H POS.(H.POSITION)	0 ~ 31	20
17.	OSD POS.(O.S.DISPLAY POSITION)	0 ~ 31	8
18.	H AFC	0 ~ 1	0
19.	BLANKING	0 ~ 1	0
20.	VIDEO SW	0 ~ 1	0
21.	Y TRAP	0 ~ 1	0
22.	RF AGC	0 ~ 63	40
23.	PIF VCO	0 ~ 127	64

### ● GAME MODE

Setting (Adjustment ) item	Variable range	Initial setting value
TINT	± 20	0
COLOR	± 20	0
PICTURE	± 20	-10
BRIGHT	± 20	-5
DETAIL	± 15	+ 5
G DRIVE	-80 ~ + 50	0
B DRIVE	-80 ~ + 50	0

● SOUND MODE

No.	Setting (Adjustment ) item	Variable range	Initial setting value
1.	ATT.	0 ~ 63	50
2.	BALANCE	0 ~ 63	32
3.	NOISE	0~1	1
4.	IN LEVEL(INPUT LEVEL)	0~63	37
5.	FH MON.(FH MONITOR)	0~1	0
6.	ST VCO(STEREO VCO)	0~63	20
7.	PILOT(PILOT CANCELER)	0~1	0
8.	FILTER	0~63	30
9.	LOW SEP.(LOW SEPARATION)	0~63	30
10.	HI SEP.(HI SEPARATION)	0~63	20
11.	5FH MON.(5FH MONITOR)	0~1	0
12.	SAP VCO	0~63	25
13.	IN GAIN(INPUT GAIN)	0~1	0
14.	FIL.OFF.	0~10	0

● LOW LIGHT MODE

Setting (Adjustment ) item	Variable range	Initial setting value
R CUTOFF	0 ~ 255	20
G CUTOFF	0 ~ 255	20
B CUTOFF	0 ~ 255	20

● HIGH LIGHT MODE

Setting (Adjustment ) item	Variable range	Initial setting value
G DRIVE	0 ~ 255	128
B DRIVE	0 ~ 255	128

● RF AFC CHK MODE

Setting (Adjustment ) item	Variable range	Initial setting value
RF AFC	ON / OFF	ON
FINE	-77 ~ + 77	+ 00

● I2C BUS CTRL MODE

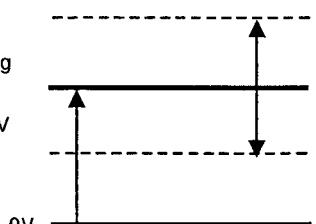
Setting (Adjustment ) item	Variable range	Initial setting value
I2C BUS	ON / OFF	Fixed ON

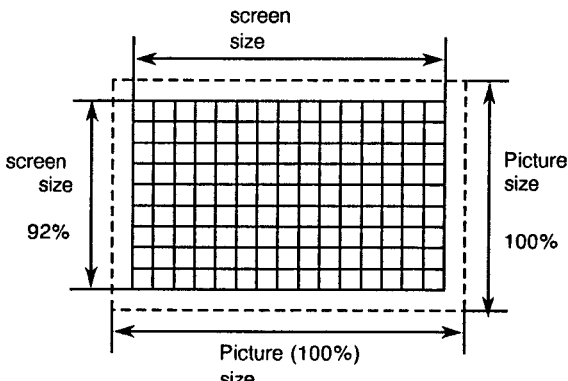
## ADJUSTMENTS

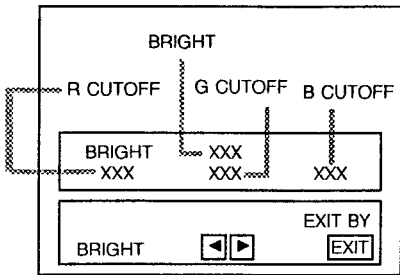
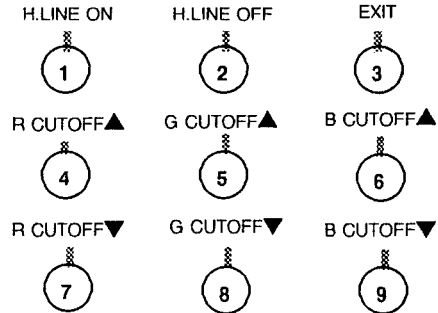
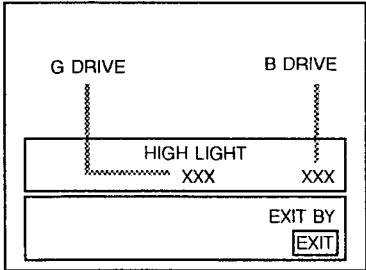
### B1 VOLTAGE CHECK

Item	Measuring instrument	Test point	Adjustment part	Description
B1 voltage check	DC Voltmeter	TP-91B (B1 Connector 1 pin) TP-E (1/2)		<ol style="list-style-type: none"> <li>1. Receive a monoscope pattern signal.</li> <li>2. Connect the DC voltmeter to TP-91B( B1 connector 1 pin) and TP-E (1/2) .</li> <li>3. Confirm that the voltage is DC <math>129.5V \pm 2V</math> - 2.5V.</li> </ol>

### ADJUSTMENT OF VIDEO/DEF. CIRCUIT

Item	Measuring instrument	Test point	Adjustment part	Description
IF VCO adjustment	Oscilloscope  Signal generator	CW Connector 3 pin	CW TRANSF. (T131)  [RF AFC CHK] MODE	<ol style="list-style-type: none"> <li>1. Receive the color bar signal.</li> <li>2. Connect the oscilloscope to pin 3 of the CW connector.</li> <li>3. Select the [RF AFC CHK] MODE of the SERVICE MENU. Set the RF AFC to OFF and FINE to +00.</li> <li>4. Turn T131, verify that the AFC output voltage changes quickly between <math>2.5V \pm 1.5V</math> and then adjust the voltage to <math>2.5V \pm 0.2V</math>.</li> <li>5. Return the RF AFC to ON.</li> <li>6. Cancel the service menu and check that no irregularities are displayed on the screen. If there are any irregularities, select [RF AFC CHK] MODE on the service menu and verify that FINE is 00 when the AFC is ON. Repeat steps 3 to 5 if necessary.</li> </ol>
<div style="display: flex; align-items: center; justify-content: space-between;"> <div style="text-align: center;"> <p>AFC setting voltage : <math>2.5V \pm 0.2V</math></p>  </div> <div style="text-align: center;"> <p>The variation must be greater than <math>2.5V \pm 1.5V</math></p> </div> </div>				
RF.AGC adjustment			No.22 RF AGC	<ol style="list-style-type: none"> <li>1. Receive a broadcast.</li> <li>2. Select "No.22 RF AGC" of the PICTURE MODE.</li> <li>3. Press the MUTE key and turn off color.</li> <li>4. With the MENU LEET key, get noise in the screen picture.(0 side of setting value)</li> <li>5. Press the MENU RIGHT key and stop when noise disappears from the screen.</li> <li>6. Change to other channels and make sure that there is no irregularity.</li> <li>7. Press the MUTE key and get color out.</li> </ol>
FOCUS adjustment	Signal generator		FOCUS VR [built-in HVT]	<ol style="list-style-type: none"> <li>1. Receive a crosshatch signal.</li> <li>2. While looking at the screen, adjust FOCUS VR so that the vertical and horizontal lines will be clear and in fine detail.</li> <li>3. Make sure that the picture is in focus even when the screen gets darkened.</li> </ol>

Item	Measuring instrument	Test point	Adjustment part	Description
V.CENTER, V.SIZE Adjustment	Signal generator		No.14 V.SIZE No.15 V.CENT	<ol style="list-style-type: none"> <li>1. Receive a crosshatch signal.</li> <li>2. Select "No.14 V.SIZE" and "No.15 V.CENT" in the PICTURE MODE.</li> <li>3. Set the initial setting value of "No.14 V.SIZE" and "No.15 V.CENT" with the LEFT / RIGHT Key of the MENU.</li> <li>4. Adjust "No.15 V.CENT" until the screen is centered vertically.</li> <li>5. Adjust "No.14 V.SIZE" until the vertical screen size is 92%.</li> </ol>
				
H.POSITON Adjustment	Signal generator		No.16 H.POS	<ol style="list-style-type: none"> <li>1. Receive a crosshatch signal.</li> <li>2. select the "No.16 H.POS" of the PICTURE MODE.</li> <li>3. Set the initial setting value of the "No.16 H.POS" with the LEFT / RIGHT key of the MENU.</li> <li>4. Adjust the "No.16 H.POS" until the screen will be horizontally centered.</li> </ol>

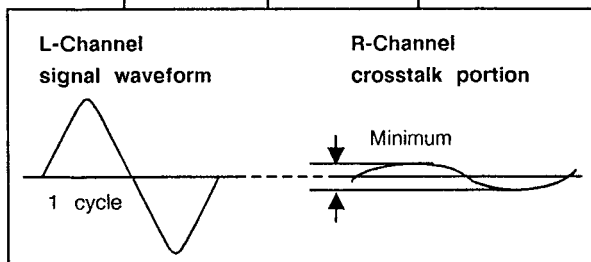
Item	Measuring instrument	Test point	Adjustment item	Description
WHITE BALANCE (Low Light) adjustment	Signal generator		BRIGHT R CUTOFF G CUTOFF B CUTOFF SCREEN VR	<ol style="list-style-type: none"> <li>1. Receive a monoscope pattern signal.</li> <li>2. Select the [LOW LIGHT] MODE from the SERVICE MENU.</li> <li>3. Set the initial setting value of "BRIGHT" with the LEFT / RIGHT Key of the Remote control unit.</li> <li>4. Set the initial setting value of "R CUTOFF", "G CUTOFF" and "B CUTOFF" with the ④ to ⑨ keys of the Remote control unit.</li> <li>5. Display one horizontal line by pressing the ① key of the Remote control unit.</li> <li>6. Turn the screen VR all the way to the left.</li> <li>7. Turn the screen VR gradually to the right from the left until either one of the red, blue or green colors appears slightly.</li> <li>8. Adjust the two colors which did not appear until the one horizontal line that is displayed becomes white using the ④ to ⑨ keys of the Remote control unit.</li> <li>9. Turn the screen VR until the first horizontal line is displayed slightly.</li> <li>10. Press the ② key to return to the regular screen.</li> </ol> <p>* The ③ EXIT key is the cancel key for the WHITE BALANCE.</p>
<p style="text-align: center;"><b>[LOW LIGHT] MODE</b></p>  <p style="text-align: center;"><b>REMOTE CONTROL UNIT</b></p> 				
WHITE BALANCE (High Light) adjustment	Signal generator		G DRIVE B DRIVE	<ol style="list-style-type: none"> <li>1. Receive a monoscope pattern signal.</li> <li>2. Select the [HIGH LIGHT] MODE in the SERVICE MENU.</li> <li>3. Set the initial setting value of "G DRIVE" and "B DRIVE" with the ⑤, ⑥, ⑧ and ⑨ keys of the Remote control unit.</li> <li>4. Adjust the screen unit it becomes white using the ⑤, ⑥, ⑧ and ⑨ keys of the Remote control unit.</li> </ol> <p>* The ③ EXIT key is the cancel key for the WHITE BALANCE.</p>
<p style="text-align: center;"><b>[HIGH LIGHT] MODE</b></p>  <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>Remote control unit</b></p> <p>① key : H.LINE ON</p> <p>② key : H.LINE OFF</p> <p>③ key : EXIT</p> <p>⑤ key : G DRIVE ▲</p> <p>⑥ key : B DRIVE ▲</p> <p>⑧ key : G DRIVE ▼</p> <p>⑨ key : B DRIVE ▼</p> </div>				

Item	Measuring instrument	Test point	Adjustment item	Description
SUB BRIGHT adjustment			No.1 BRIGHT	<ol style="list-style-type: none"> <li>1. Receive a broadcast.</li> <li>2. Select "No.1 BRIGHT" of the PICTURE MODE.</li> <li>3. Set the initial setting value of the "No.1 BRIGHT" with the LEFT / RIGHT key of the MENU.</li> <li>4. If the brightness is not the best with the initial setting value, make fine adjustment of the "No.1 BRIGHT" until you get the optimum brightness.</li> </ol>
SUB CONTRAST adjustment			No.2 PICTURE	<ol style="list-style-type: none"> <li>1. Receive a broadcast.</li> <li>2. Select "No.2 PICTURE" of the PICTURE MODE.</li> <li>3. Set the initial setting value of the "No.2 PICTURE" with the LEFT / RIGHT key of the MENU.</li> <li>4. If the contrast is not the best with the initial setting value, make fine adjustment of the "No.2 PICTURE" until you get the optimum contrast.</li> </ol>
SUB COLOR adjustment			No.7 COLOR	<ol style="list-style-type: none"> <li>1. Receive a broadcast.</li> <li>2. Select "No.7 COLOR" of the PICTURE MODE.</li> <li>3. Set the initial setting value of the "No.7 COLOR" with the LEFT / RIGHT key of the MENU.</li> <li>4. If the color is not the best with the initial setting value, make fine adjustment of the "No.7 COLOR" until you get the optimum color.</li> </ol>
SUB TINT adjustment			No.6 TINT	<ol style="list-style-type: none"> <li>1. Receive a broadcast.</li> <li>2. Select "No.6 TINT" of the PICTURE MODE.</li> <li>3. Set the initial setting value of the "No.6 TINT" with the LEFT / RIGHT key of the MENU.</li> <li>4. If the tint is not the best with the initial setting value, make fine adjustment of the "No.6 TINT" until you get the optimum tint.</li> </ol>

## ADJUSTMENT OF MTS CIRCUIT

Item	Measuring instrument	Test point	Adjustment part	Description
MTS INPUT LEVEL check			No.4 IN LEVEL	<ol style="list-style-type: none"> <li>1. Select the "No.4 IN LEVEL" of the SOUND MODE.</li> <li>2. Verify that the "No.4 IN LEVEL" is set at its initial setting value.</li> </ol>
MTS STEREO VCO adjustment	Signal generator Frequency counter	MPX Connector 2 pin RTV	No.5 FH MON. No.6 ST VCO	<ol style="list-style-type: none"> <li>1. Receive a RF signal (nonmodulated sound signal) from the antenna terminal.</li> <li>2. Select the "No.5 FH MON. of SOUND MODE, and change the setting value from 0 to 1.</li> <li>3. Connect the Frequency Counter to pin 2 of MPX connector.</li> <li>4. Select the "No.6 ST VCO".</li> <li>5. Set the initial setting value of the "No.6 ST VCO" with the LEFT/RIGHT key of the menu.</li> <li>6. Adjust the "No.6 ST VCO" so that the Frequency Counter will display <math>15.73\text{KHz} \pm 0.1\text{KHz}</math>.</li> <li>7. Select the "No.5 FH MON." of the SOUND MODE, and reset the setting value from 1 to 0.</li> </ol>

Item	Measuring instrument	Test point	Adjustment part	Description
MTS SAP VCO adjustment	Signal generator  Frequency counter	<b>MPX</b> Connector [4] pin SDA [3] pin GND [2] pin RTV	No.11 5FH MON.  No.12 SAP VCO	<ol style="list-style-type: none"> <li>1. Receive a RF signal (nonmodulated sound signal) from the antenna terminal.</li> <li>2. Connect between pin [4] of <b>MPX</b> connector and GND (Pin [3] of <b>MPX</b> connector) through 1MΩ Resistor.</li> <li>3. Select the "No.11 5FH MON." of the SOUND MODE, and reset the setting value from 0 to 1.</li> <li>4. Connect the Frequency Counter to pin [2] (R.OUT) of <b>MPX</b> connector.</li> <li>5. Select the "No.12 SAP VCO".</li> <li>6. Set the initial setting value of "No.12 SAP VCO" with the LEFT/RIGHT key of the menu.</li> <li>7. Adjust the "No.12 SAP VCO" so that the Frequency Counter will display 78.67KHz ± 0.5KHz.</li> <li>8. Select the "No.11 5FH MON." of the SOUND MODE, and reset the setting value from 1 to 0.</li> </ol>
MTS FILTER check			No.8 FILTER	<ol style="list-style-type: none"> <li>1. Select the "No.8 FILTER" of the SOUND MODE.</li> <li>2. Verify that the "No.8 FILTER" is set at its initial setting value.</li> </ol>
MTS SEPARATION adjustment	TV audio multiplex signal generator  Oscilloscope	<b>MPX</b> Connector [1] pin LTV [2] pin RTV	No.9 LOW SEP.  No.10 HI SEP.	<ol style="list-style-type: none"> <li>1. Input a stereo L signal (300Hz) from the TV Audio Multiplex Signal Generator to the antenna terminal.</li> <li>2. Connect an oscilloscope to pin [1] (L OUT) of <b>MPX</b> connector, and display one cycle portion of the 300Hz signal.</li> <li>3. Change the connection of the oscilloscope to pin [2] (R OUT) of <b>MPX</b> connector, and enlarge the voltage axis.</li> <li>4. Select the "No.9 LOW SEP." of the SOUND MODE.</li> <li>5. Set the initial setting value of the "No.9 LOW SEP." with the LEFT/RIGHT key of the menu.</li> <li>6. Adjust the "No.9 LOW SEP." so that the stroke element of the 300Hz signal will become minimum.</li> <li>7. Change the signal to 3kHz, and similarly adjust the "No.10 HI SEP."</li> </ol>



## HOW TO CHECK THE HIGH VOLTAGE HOLD DOWN CIRCUIT

### 1. HIGH VOLTAGE HOLD DOWN CIRCUIT

After repairing the high voltage hold down circuit shown in Fig. 1.

This circuit shall be checked to operate correctly.

### 2. CHECKING OF THE HIGH VOLTAGE HOLD DOWN CIRCUIT

- (1) Turn the POWER SW ON.
- (2) As shown in Fig. 1, set the resistor (between X connector 1 & 3).
- (3) Make sure that the screen picture disappears.
- (4) Temporarily unplug the power cord.
- (5) Remove the resistor( between X connector 1 & 3).
- (6) Again plug the power cord, make sure that the normal picture is displayed on the screen.

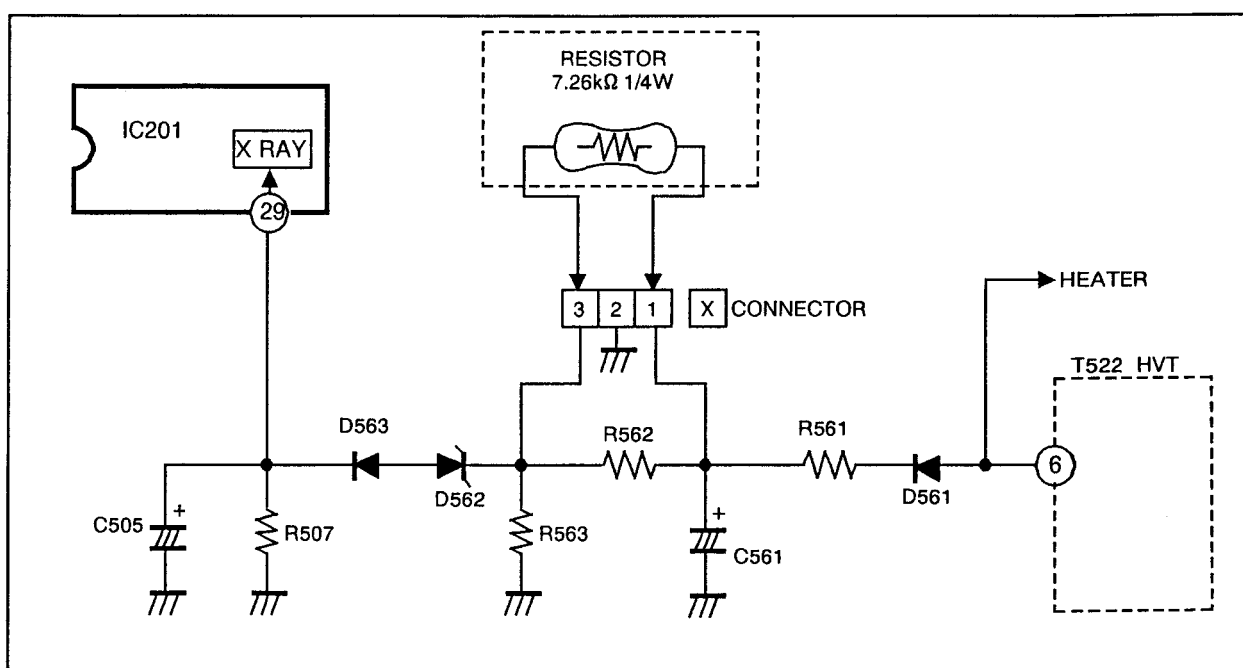


Fig. 1

SELF CHECK FUNCTIONS

1. Outline

This model includes a CRT (Cathode Ray Tube) NECK protector function which cuts off the sub-power in the event of a malfunction and informs of the malfunction by flashing ON-TIMER LED.

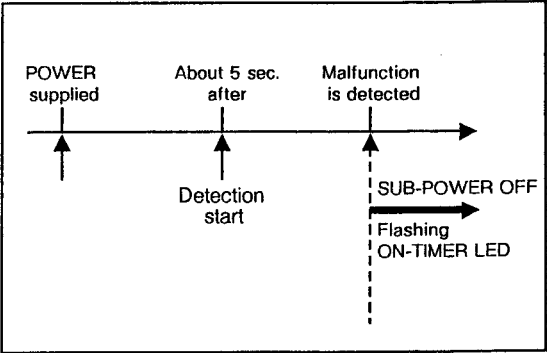
The malfunction is detected according to the state of the control line input connected to the main CPU.

2. Self check indicating function

The CRT NECK protector function begins detection about 5 seconds after power is supplied.

In the event a malfunction is detected, the sub-power is cutoff immediately.

At this time, the ON-TIMER LED flashes.



[ON-TIMER LED indication]

- 1. The ON-TIMER LED flashes at 1 second intervals.


3. Contents of Self check

Check item	Detected contents	Detection method	Abnormality state
CRT NECK protector (Also detected if the power supply line output from the HVT (High voltage Transformer) has shorted with the ground.)	When the vertical circuit S-correction capacitor C427 is shorted, detect the potential drop of the C427, and prevent the burn damage to the CRT NECK. (Grounding of shorting of the power supply output from the HVT to the vertical circuit, and the small signal power supply is also detected.)	The main CPU detects at 30 ms intervals for 16 cycles. If NG is detected 9 or more times out of 16, a malfunction is interpreted.	During an abnormality the sub-power is cutoff. The remote controller power key operation is not recognized and sub-power off is maintained until the power cord is unplugged and reinserted.

# AV-27820<sub>(US&CA)</sub> STANDARD CIRCUIT DIAGRAM

## ■ NOTE ON USING CIRCUIT DIAGRAMS

### 1. SAFETY

The components identified by the  symbol and shading are critical for safety. For continued safety replace safety critical components only with manufactures recommended parts.

### 2. SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

- (1) Input signal : Color bar signal
  - (2) Setting positions of each knob/button and variable resistor : Original setting position when shipped
  - (3) Internal resistance of tester : DC 20k $\Omega$ /V
  - (4) Oscilloscope sweeping time : H  $\Rightarrow$  20 $\mu$ S/div  
: V  $\Rightarrow$  5mS/div  
: Others  $\Rightarrow$  Sweeping time is specified
  - (5) Voltage values : All DC voltage values
- \* Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

### 3. INDICATION OF PARTS SYMBOL [EXAMPLE]

- In the PW board : R1209  $\rightarrow$  R209

### 4. INDICATIONS ON THE CIRCUIT DIAGRAM

#### (1) Resistors

##### • Resistance value

- No unit : [ $\Omega$ ]
- K : [K $\Omega$ ]
- M : [M $\Omega$ ]

##### • Rated allowable power

- No indication : 1/6[W]
- Others : As specified

##### • Type

- No indication : Carbon resistor
- OMR : Oxide metal film resistor
- MFR : Metal film resistor
- MPR : Metal plate resistor
- UNFR : Uninflamable resistor
- FR : Fusible resistor

\* Composition resistor 1/2 [W] is specified as 1/2S or Comp.

#### (2) Capacitors

##### • Capacitance value

- 1 or higher : [pF]
- less than 1 : [ $\mu$ F]

##### • Withstand voltage

- No indication : DC50[V]
- Others : DC withstand voltage[V]
- AC indicated : AC withstand voltage[V]

##### \* Electrolytic Capacitors

- 47/50 [Example]: Capacitance value [ $\mu$ F]/withstand voltage[V]





##### • Type

- No indication : Ceramic capacitor
- MY : Mylar capacitor
- MM : Metalized mylar capacitor
- PP : Polypropylene capacitor
- MPP : Metalized polypropylene capacitor
- MF : Metalized film capacitor
- TF : Thin film capacitor
- BP : Bipolar electrolytic capacitor
- TAN : Tantalum capacitor

#### (3) Coils



- No unit : [ $\mu$ H]
- Others : As specified

#### (4) Power Supply



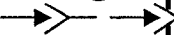
-  : B1(129.5V)
-  : B2(12V)
-  : 9V
-  : 5V

\* Respective voltage values are indicated.





#### (5) Test Point

-  : Test point
-  : Only test point display



#### (6) Connecting method

-  : Connector
-  : Wrapping or soldering
-  : Receptacle

#### (7) Ground symbol

-  : LIVE side ground
-  : ISOLATED(NEUTRAL) side ground
-  : EARTH ground
-  : DIGITAL ground

## 5. NOTE FOR REPAIRING SERVICE



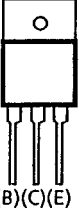
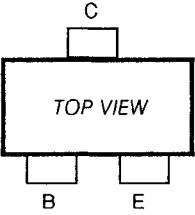
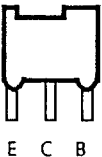
This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : () side GND and the ISOLATED(NEUTRAL) : () side GND. Therefore, care must be taken for the following points.

- (1) Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED(NEUTRAL) side GND simultaneously. If the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.
- (2) Do not short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or never measure with a measuring apparatus (oscilloscope, etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND at the same time. If the above precaution is not respected, a fuse or any parts will be broken.


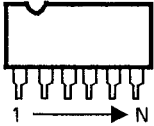
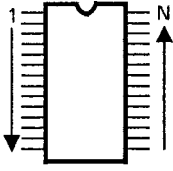
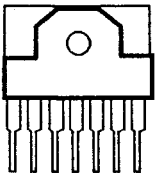
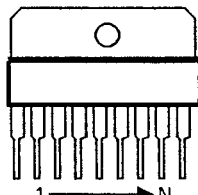
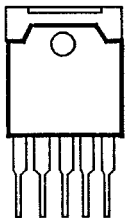
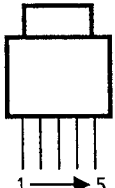
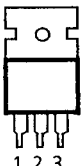
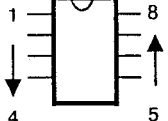
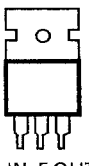
◆ Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.

# SEMICONDUCTOR SHAPES (\* = Bottom view)

## TRANSISTORS

 <p>           2SA562TM(Y)            2SA673(C)            2SC2655(Y)            2SA933(QR)            2SC1959            2SC1906            2SC2482(C1)            2SC4722(NP)            2SA966(OY)            2SC1815(YG)         </p>	 <p>           2SA933S(QR)            2SC1740S(QR)            2SC2785(JH)         </p>	 <p>           2SD1554-C1            2SD1876-YD            2SD1878-YD         </p>
<p>(CHIP TR)</p>  <p>           2SA1037K(QR)-X            2SA1162(YG)-X            2SC2712(YG)-X            2SC2412K(QR)-X            DTC124EKA-X            DTA124EKA-X         </p>	 <p>2SC5083(L-P)</p>	

## ICs

 <p>TA78L005AP TA78L009AP TA78L012AP AN78L05 AN78L09 AN78L12 KIA78L05BP</p>	 <p>XRA15128N BA7612N BA15218N</p>	 <p>CXA1124AS MN152121JGM2 MN1872013JGU3</p> <p>MN1873237JKH6 M37267M8-204SP M37267M8-213SP TA1242N TA8601BNV TA8725AN TA8725N-J TA8801AN UPC1851CU-02</p>	
 <p>LA7830</p>	 <p>AN5265 LA4485</p>	 <p>STR-F6514</p>	
 <p>L78LR05E-MA</p>	 <p>S1854-C1</p>	 <p>ST93C46AB1 AT93C56-10PC AT24C02-20820</p>	 <p>TA78005AP TA78012AP AN7805 UPC2412HF UPC2405HF KIA7809AI</p>

## CHANNEL CHART(CA)

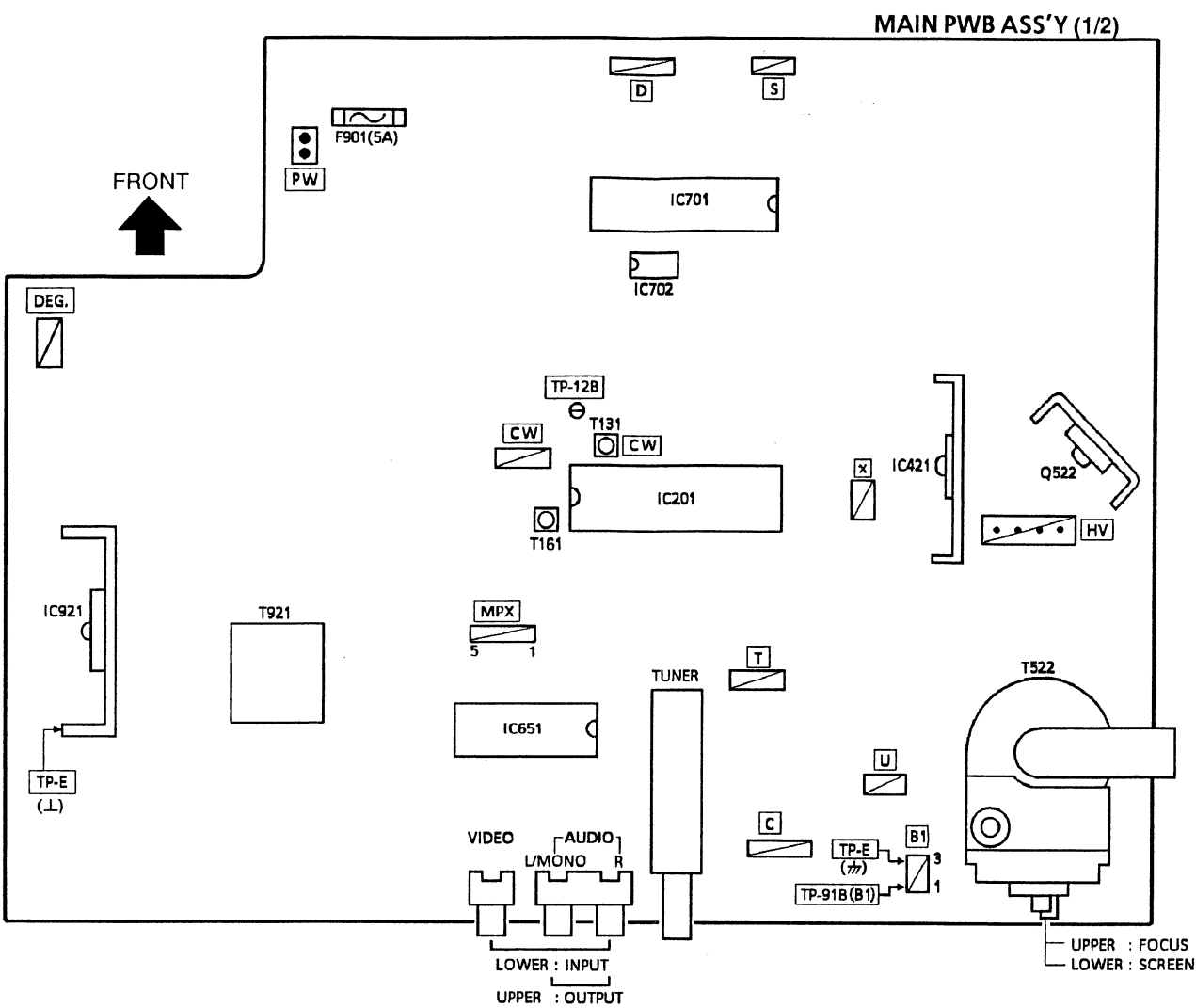
MODE		BAND	CHANNEL		TUNER BAND	
TV	CATV		REAL	DISP.		
○	○	VL	02	I		
			03			
			04			
			05			
			06			
		VH	07	II		
			08			
			09			
			10			
			11			
			12			
			13			
×	○	MID	A	14	I	
			B	15		
			C	16		II
			D	17		
			E	18		
			F	19		
			G	20		
			H	21		
			I	22		
		SUPER	J	23		
			K	24		
			L	25		
			M	26		
			N	27		
			O	28		
			P	29		
			Q	30		
			R	31		
			S	32		
		T	33			
		U	34			
		V	35			
		W	36			
		HYPER	W+1	37		
			W+2	38		
			W+3	39		
			W+4	40		
			W+5	41		
			W+6	42		
			W+7	43		
			W+8	44		
			W+9	45		
			W+10	46		
			W+11	47		
W+12	48					
W+13	49					
W+14	50					
W+15	51					
W+16	52					
W+17	53					
W+18	54					
W+19	55					
W+20	56					
W+21	57					
W+22	58					
W+23	59					
W+24	60					
W+25	61					
W+26	62					
W+27	63					
W+28	64					
ULTRA	W+29	65				
	W+30	66				
	W+31	67				
	W+32	68				
	W+33	69				
	W+34	70				

MODE		BAND	CHANNEL		TUNER BAND
TV	CATV		REAL	DISP.	
X	○	ULTRA	W+35	71	IV
			W+36	72	
			W+37	73	
			W+38	74	
			W+39	75	
			W+40	76	
			W+41	77	
			W+42	78	
			W+43	79	
			W+44	80	
			W+45	81	
			W+46	82	
			W+47	83	
			W+48	84	
			W+49	85	
			W+50	86	
			W+51	87	
			W+52	88	
			W+53	89	
			W+54	90	
			W+55	91	
			W+56	92	
			W+57	93	
			W+58	94	
			W+59	100	
			W+60	101	
			W+61	102	
			W+62	103	
			W+63	104	
			W+64	105	
			W+65	106	
			W+66	107	
			W+67	108	
			W+68	109	
			W+69	110	
W+70	111				
W+71	112				
W+72	113				
W+73	114				
W+74	115				
W+75	116				
W+76	117				
W+77	118				
W+78	119				
W+79	120				
W+80	121				
W+81	122				
W+82	123				
W+83	124				
W+84	125				
		SUB MID	A-8 A-4 A-3 A-2 A-1	01 96 97 98 99	I
○	X	UHF	14 S 69		IV
TOTAL 180CH { VHF 124CH UHF 56CH					
NOTE: TO RECEIVE THE SUBSCRIPTION OR PREMIUM PROGRAMMING FROM CERTAIN CABLE COMPANIES. SPECIAL ADAPTERS MAY BE REQUIRED.					

MODE		BAND	CHANNEL		TUNER BAND	
TV	CATV		REAL	DISP.		
○	○	VL		02	I	
				03		
				04		
				05		
				06		
		VH		07		
				08		
				09		
				10		
				11		
				12		
				13		
×	○	MID	A	14	II	
			B	15		
			C	16		
			D	17		
			E	18		
			F	19		
			G	20		
			H	21		
			I	22		
			SUPER	J		23
		K		24		
		L		25		
		M		26		
		N		27		
		O		28		
		P		29	III	
		Q		30		
		R		31		
		S		32		
		T		33		
		U		34		
		V	35			
W	36					
HYPER	W+1	37				
	W+2	38				
	W+3	39				
	W+4	40				
	W+5	41				
	W+6	42				
	W+7	43				
	W+8	44				
	W+9	45				
	W+10	46				
	W+11	47				
	W+12	48				
	W+13	49				
	W+14	50				
	W+15	51				
	W+16	52				
	W+17	53				
	W+18	54				
W+19	55					
W+20	56					
W+21	57					
W+22	58					
W+23	59					
W+24	60					
W+25	61					
W+26	62					
W+27	63					
W+28	64					
ULTRA	W+29	65	IV			
	W+30	66				
	W+31	67				
	W+32	68				
	W+33	69				
	W+34	70				

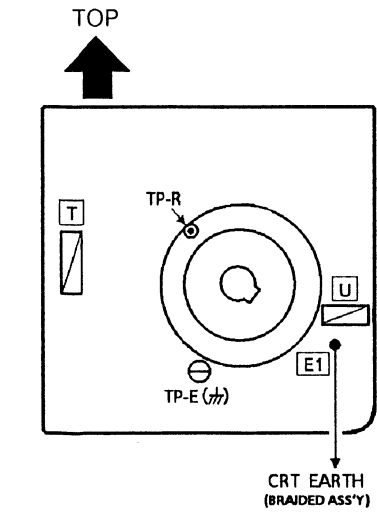
MODE		BAND	CHANNEL		TUNER BAND
TV	CATV		REAL	DISP.	
X	○	ULTRA	W + 35	71	IV
			W + 36	72	
			W + 37	73	
			W + 38	74	
			W + 39	75	
			W + 40	76	
			W + 41	77	
			W + 42	78	
			W + 43	79	
			W + 44	80	
			W + 45	81	
			W + 46	82	
			W + 47	83	
			W + 48	84	
			W + 49	85	
			W + 50	86	
			W + 51	87	
			W + 52	88	
			W + 53	89	
			W + 54	90	
			W + 55	91	
			W + 56	92	
			W + 57	93	
			W + 58	94	
			W + 59	100	
			W + 60	101	
			W + 61	102	
			W + 62	103	
			W + 63	104	
			W + 64	105	
			W + 65	106	
			W + 66	107	
			W + 67	108	
			W + 68	109	
			W + 69	110	
			W + 70	111	
			W + 71	112	
			W + 72	113	
			W + 73	114	
			W + 74	115	
			W + 75	116	
			W + 76	117	
			W + 77	118	
			W + 78	119	
W + 79	120				
W + 80	121				
W + 81	122				
W + 82	123				
W + 83	124				
W + 84	125				
		SUB MID	A-8	01	I
			A-4	96	
			A-3	97	II
		A-2	98		
		A-1	99		
○	×	UHF	14 S 69		IV
TOTAL 180CH { VHF 124CH UHF 56CH					
NOTE: TO RECEIVE THE SUBSCRIPTION OR PREMIUM PROGRAMMING FROM CERTAIN CABLE COMPANIES. SPECIAL ADAPTERS MAY BE REQUIRED.					

MAIN PARTS LOCATION AND ALIGNMENT LOCATION

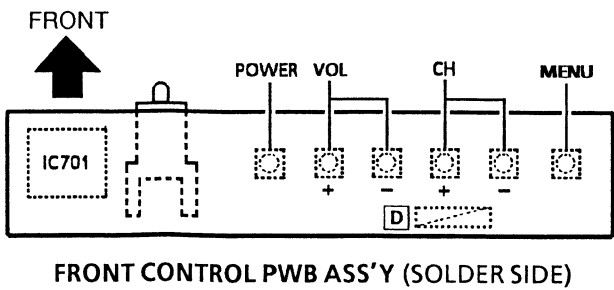


WIRING LIST

P.W.B or PART NAME	CONNECTOR NAME	WIRING	CONNECTOR NAME	P.W.B or PART NAME
MAIN PWB ASS'Y	T	↔	T	CRT SOCKET PWB ASS'Y
MAIN PWB ASS'Y	U	↔	U	CRT SOCKET PWB ASS'Y
MAIN PWB ASS'Y	DEG	↔	WIRE	DEG. COIL
MAIN PWB ASS'Y	HV	↔	WIRE	DEF. YOKE
MAIN PWB ASS'Y	S	↔	WIRE	SPEAKER (L/R)
MAIN PWB ASS'Y	D	↔	D	FRONT CONTROL PWB ASS'Y
MAIN PWB ASS'Y	PW	↔	WIRE	POWER CORD
CRT SOCKET PWB ASS'Y	E1 CRT EARTH	↔	EARTH WIRE	CRT (BRAIDED ASS'Y)



CRT SOCKET PWB ASS'Y(2/2) (SOLDER SIDE)  
(Within MAIN PWB ASS'Y)

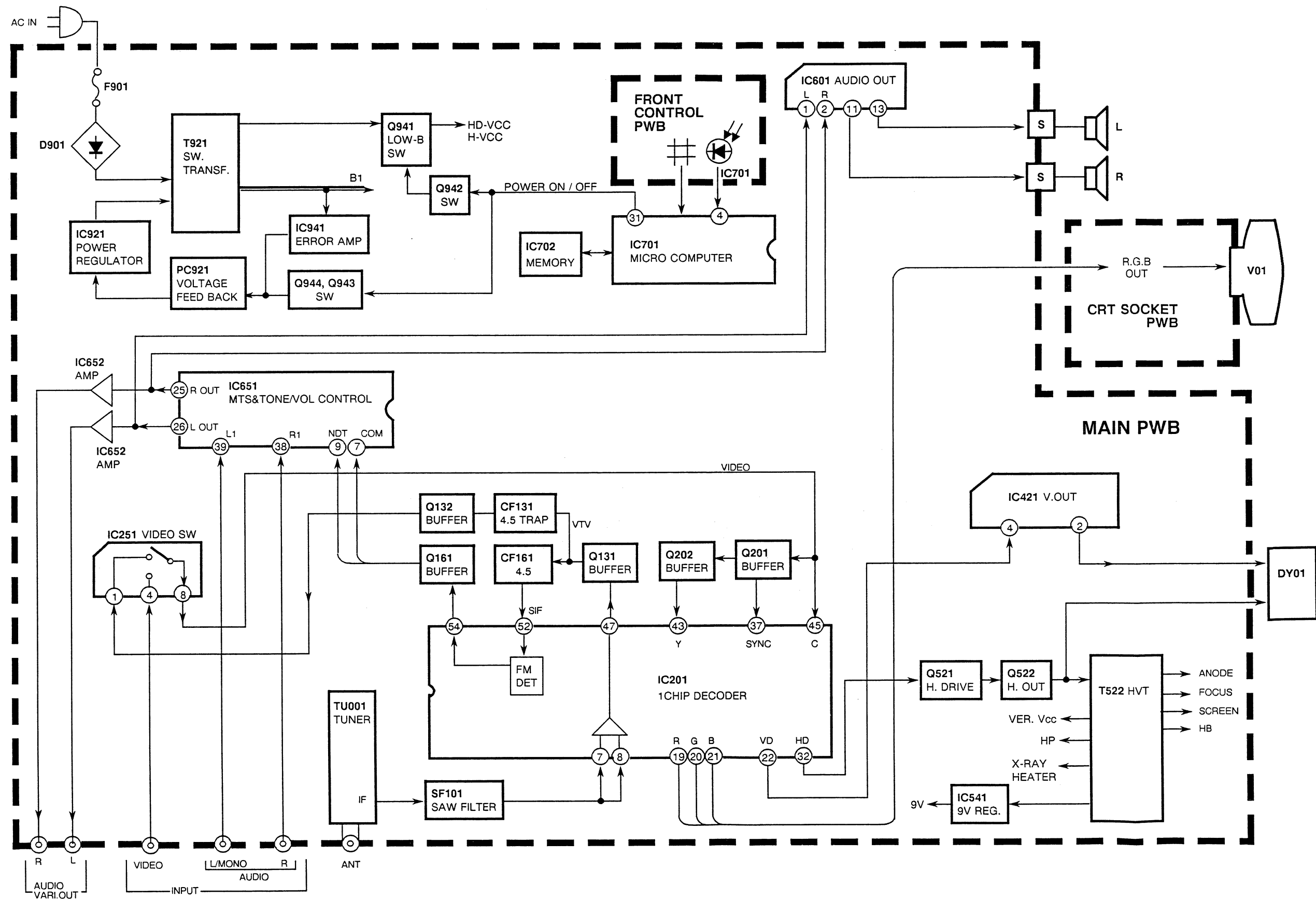


FRONT CONTROL PWB ASS'Y (SOLDER SIDE)

BLOCK DIAGRAM

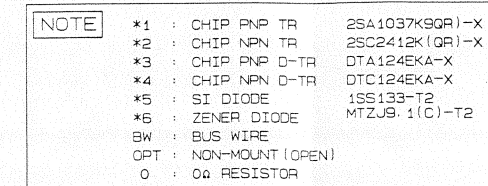
AV-27820

AV-27820



## MAIN PWB, CRT SOCKET PWB, FRONT CONTROL PWB CIRCUIT DIAGRAMS

CRT SOCKET PWB PATTERN Page 2-15.

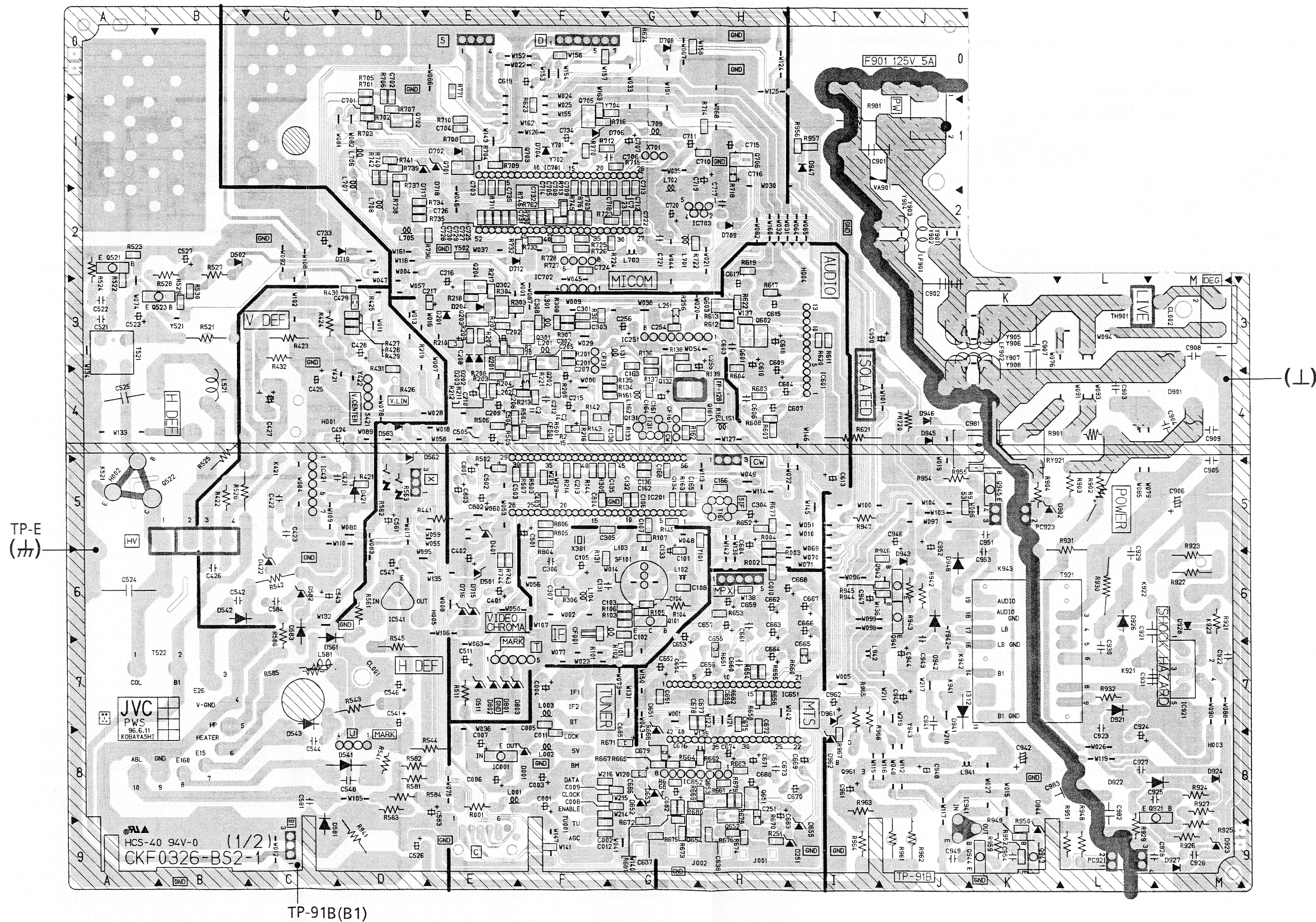


MAIN PWB PATTERN

(SFA-1010A-M2)

↑ FRONT

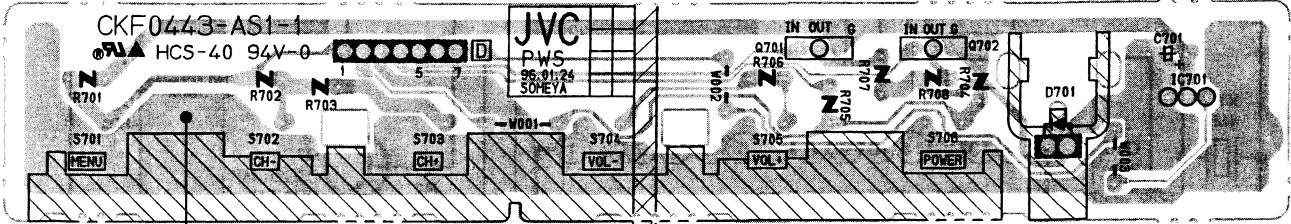
(Magnification Rate 95%)



## FRONT CONTROL PWB PATTERN (SFA-4001A-M2)

**(SFA-4001A-M2)**

(Magnification Rate 100%)



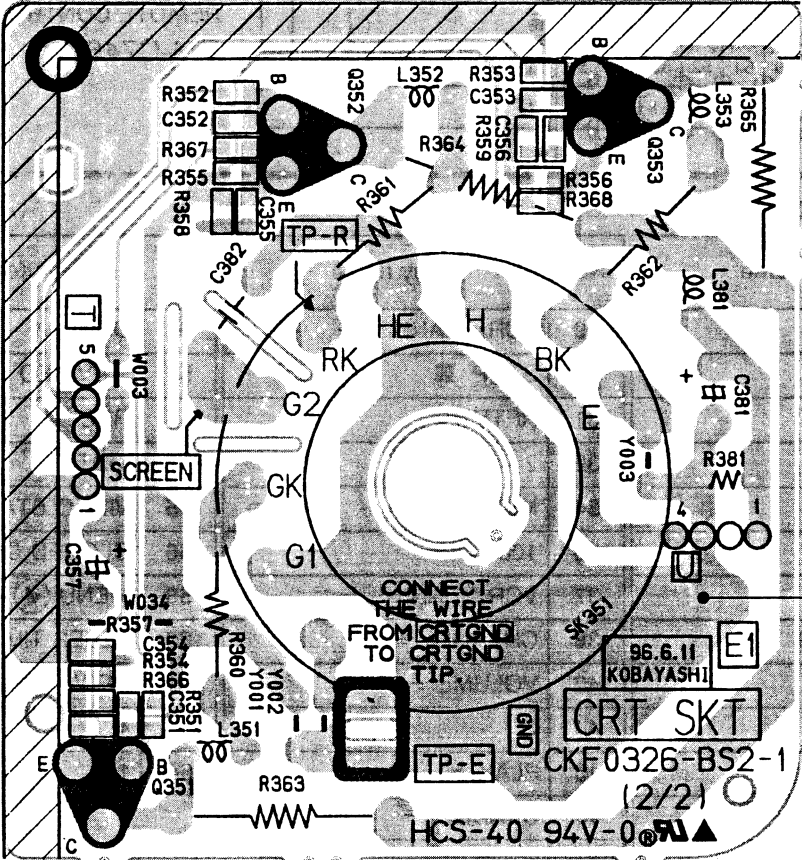
**↓ FRONT**

CRT SOCKET PWB PATTERN (within MAIN PWB)	(SFA-1010A-M2)
--	----------------

**(SFA-1010A-M2)**

(Magnification Rate 150%)

**↑ TOP**



# PARTS LIST

## CAUTION

- The parts identified by the  $\triangle$  symbol are important for the safety . Whenever replacing these parts, be sure to use specified ones to secure the safety .
  - The parts not indicated in this Parts List and those which are filled with lines — in the Parts No. columns will not be supplied .
  - P. W. Board Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied .
  - As a rule, the resistors and capacitors which are indicated as shown in "HOW TO EXPRESS PARTS NUMBERS OF STANDARD PARTS" are not shown in the list of the parts on the board .
- When ordering the service parts, confirm the resistance/rated power, capacitance/rated voltage, and type of the parts, then order by the part No. indicated according to "HOW TO EXPRESS PARTS NUMBERS OF STANDARD PARTS" .

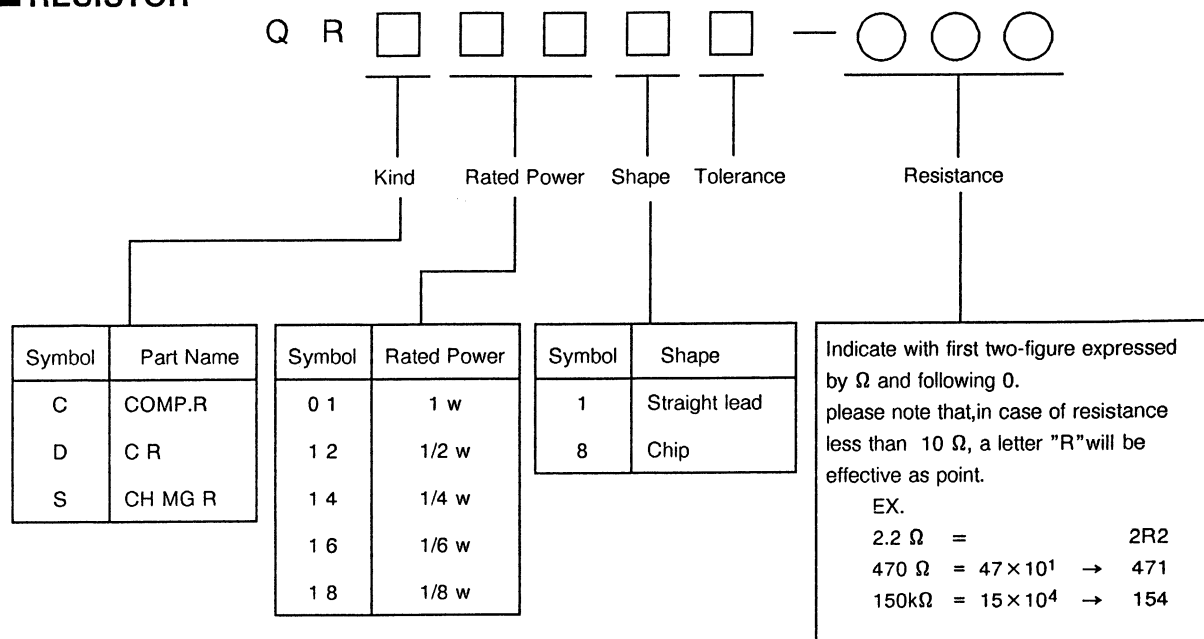
## ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS		CAPACITORS	
C R	Carbon Resistor	C CAP.	Ceramic Capacitor
F R	Fusible Resistor	E CAP.	Electrolytic Capacitor
P R	Plate Resistor	M CAP.	Mylar Capacitor
V R	Variable Resistor	HV CAP.	High Voltage Capacitor
HV R	High Voltage Resistor	MF CAP.	Metalized Film Capacitor
MF R	Metal Film Resistor	MM CAP.	Metalized Mylar Capacitor
MG R	Metal Glazed Resistor	MP CAP.	Metalized Polystyrol Capacitor
MP R	Metal Plate Resistor	PP CAP.	Polypropylene Capacitor
OM R	Metal Oxide Film Resistor	PS CAP.	Polystyrol Capacitor
CMF R	Coating Metal Film Resistor	TF CAP.	Thin Film Capacitor
UNF R	Non-Flammable Resistor	MPP CAP.	Metalized Polypropylene Capacitor
CH V R	Chip Variable Resistor	TAN. CAP.	Tantalum Capacitor
CH MG R	Chip Metal Glazed Resistor	CH C CAP.	Chip Ceramic Capacitor
COMP. R	Composition Resistor	BP E CAP.	Bi-Polar Electrolytic Capacitor
LPTC R	Linear Positive Temperature Coefficient Resistor	CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
		CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
		CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
		CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

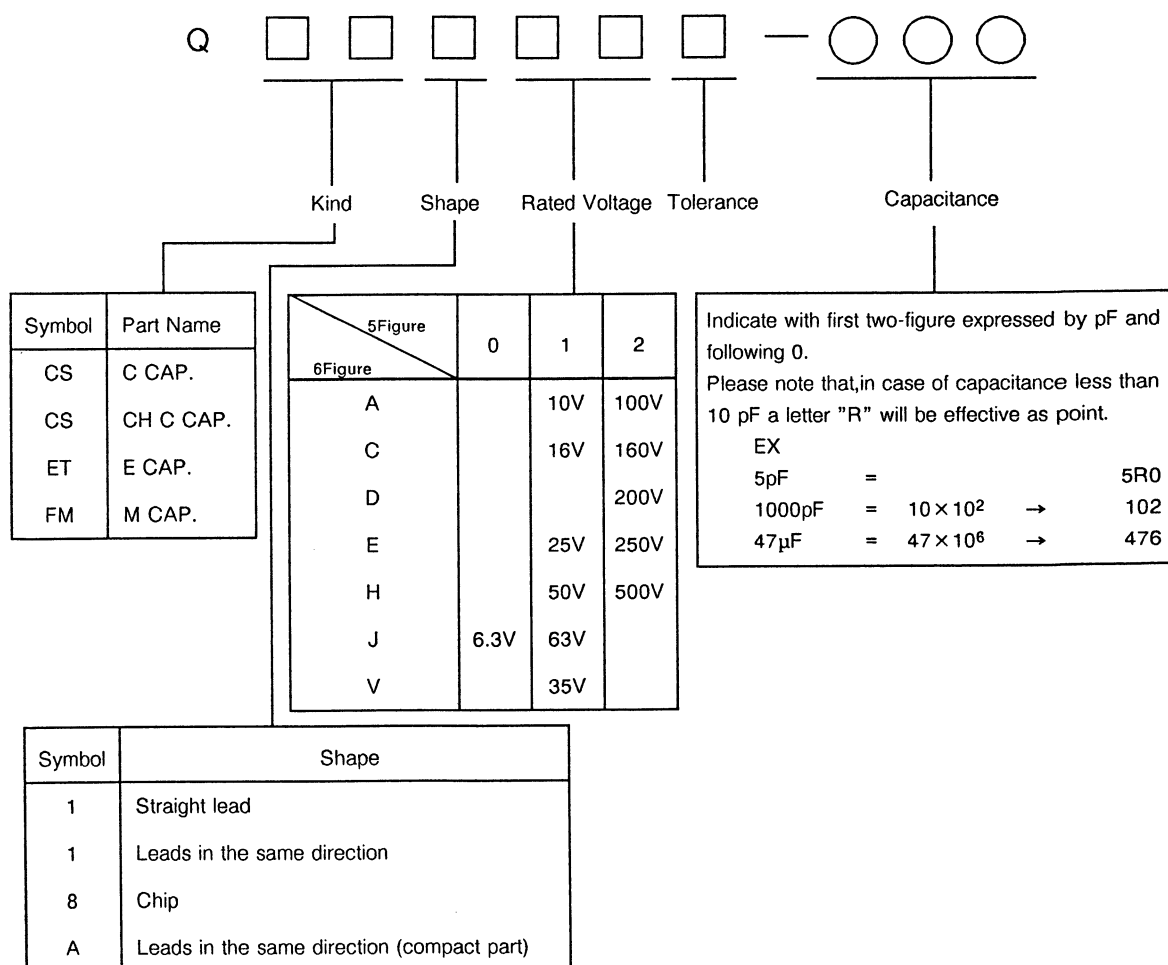
TOLERANCES									
F	G	J	K	M	N	R	H	Z	P
$\pm 1\%$	$\pm 2\%$	$\pm 5\%$	$\pm 10\%$	$\pm 20\%$	$\pm 30\%$	+ 30% - 10%	+ 50% - 10%	+ 80% - 20%	+ 100% - 0%

## HOW TO EXPRESS PARTS NUMBERS OF STANDARD PARTS

### ■ RESISTOR



### ■ CAPACITOR



# CONTENTS

■ USING P.W. BOARD & REMOTE CONTROL UNIT .....	25
■ EXPLODED VIEW PARTS LIST .....	26
■ EXPLODED VIEW .....	27
■ PRINTED WIRING BOARD PARTS LIST	
● MAIN PW BOARD ASS'Y (SFA-1010A-M2) .....	28
● FRONT CONTROL PW BOARD ASS'Y (SFA-4001A-M2) .....	31
■ REMOTE CONTROL UNIT PARTS LIST .....	32
■ PACKING .....	33
■ PACKING PARTS LIST	
● America Model .....	33
● Canada Model .....	33

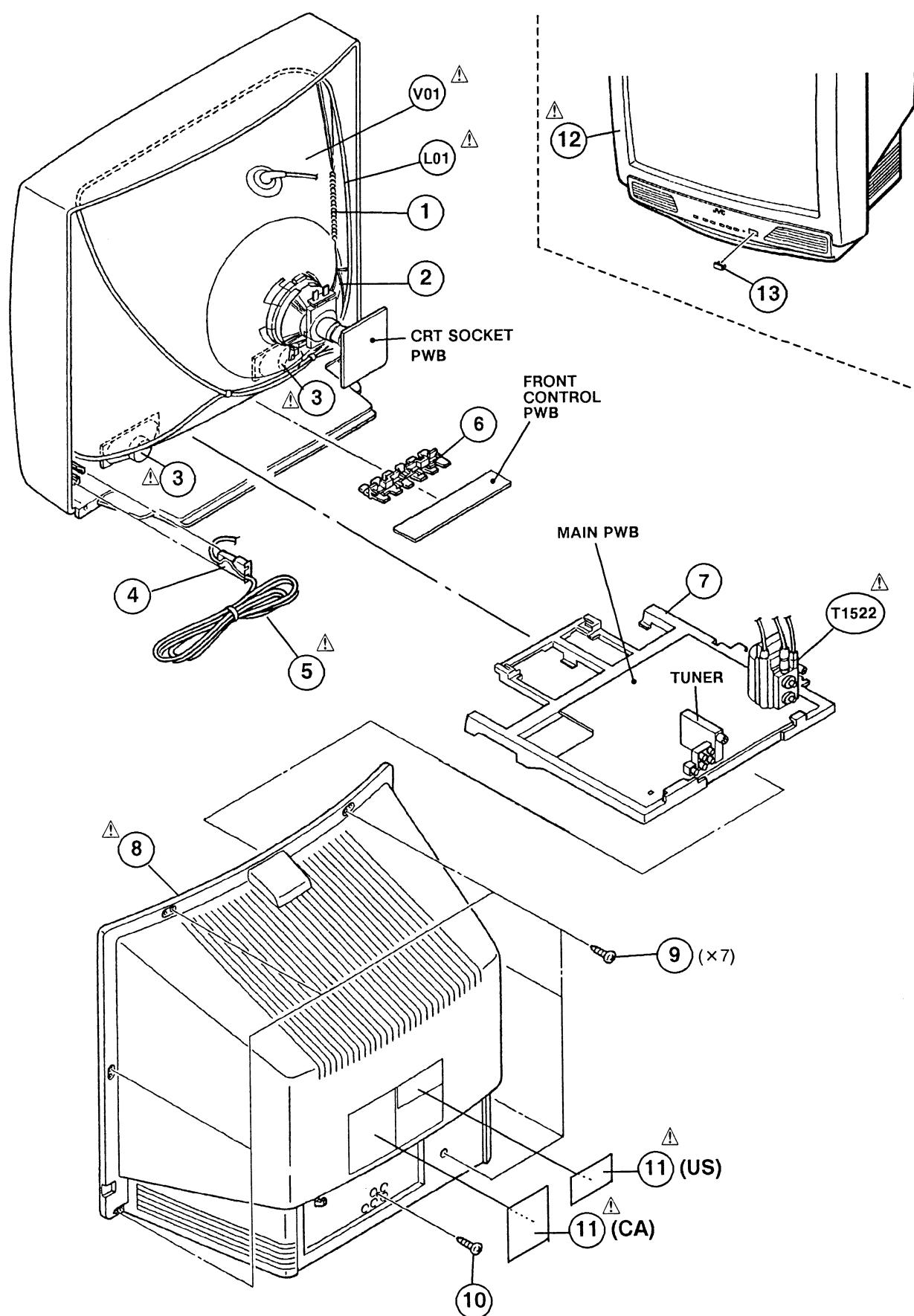
## USING P.W. BOARD & REMOTE CONTROL UNIT

P.W.B ASS'Y \ Model	AV-27820 (US)	AV-27820 (CA)
MAIN P.W.B	SFA-1010A-M2	←
FRONT CONTROL P.W.B	SFA-4001A-M2	←
REMOTE CONTROL UNIT	RM-C746-1C	←

## EXPLODED VIEW PARTS LIST

△ Ref.No.	Part No.	Part Name	Description	Local
△ V01	A68ADT25X01	ITC TUBE(C)	Inc.DY	*
△ L01	CE41329-00CJ2	DEG.COIL		*
△ T1522	CE42674-001J1	H.V.TRANSF.		*
1	CHGB0015-0B	BRAIDED WIRE		*
2	CHGB0016-0C	BRAIDED WIRE		*
△ 3	CEBSS12D-04KJ2	SPEAKER	( × 2)SP01,SP02	*
4	CM48140-A03-A	CORD CLAMP		*
△ 5	QMPD070-200-JC	POWER CORD		*
6	CM35776-B01-H	PUSH KNOB		*
7	CM12689-B01-VA	CHASSIS BASE		*
△ 8	CM12415-C21-MA	REAR COVER		*
9	GBSB4016Z	TAPPING SCREW	( × 7)	*
10	SBSB3010Z	TAPPING SCREW		*
△ 11	CM23034-001-A	RATING LABEL	[AV-27820(US)]	*
△ 11	CM22999-001-A	RATING LABEL	[AV-27820(CA)]	*
△ 12	CM12793-005-MA	FRONT CABINET		*
13	CM35983-001-H	REMOCON WINDOW		*

## EXPLODED VIEW



# PRINTED WIRING BOARD PARTS LIST

## MAIN PW BOARD ASS'Y (SFA-1010A-M2)

△ Symbol No.	Part No.	Part Name	Description	Local
R E S I S T O R				
R1360-62	QRZ0111-152	C R	1.5k $\Omega$ 1/2W	*
R1363-65	QRG029J-123	OM R	12k $\Omega$ 2W J	*
R1423	QRX019J-1R0S	MF R	1 $\Omega$ 1W J	*
R1521	QRX029J-5R6A	MF R	5.6 $\Omega$ 2W J	*
R1525	QRG019J-561S	OM R	560 $\Omega$ 1W J	*
R1526	QRG029J-152A	OM R	1.5k $\Omega$ 2W J	*
R1541	QRD149J-2R2S	C R	2.2 $\Omega$ 1/4W J	*
R1542	QRX029J-1R8A	MF R	1.8 $\Omega$ 2W J	*
R1543	QRX029J-2R2A	MF R	2.2 $\Omega$ 2W J	*
R1544	QRG029J-223A	OM R	22k $\Omega$ 2W J	*
R1545	QRG029J-470A	OM R	47 $\Omega$ 2W J	*
R1561	QRD129J-4R7S	C R	4.7 $\Omega$ 1/2W J	*
△ R1562	QRV141F-4991AY	MF R	4.99k $\Omega$ 1/4W F	*
△ R1563	QRV141F-5101AY	MF R	5.1k $\Omega$ 1/4W F	*
△ R1585	QRX019J-R27S	MF R	0.27 $\Omega$ 1W J	*
R1607	QRSA08J-123YL	CHIP MG R	12k $\Omega$ 1/10W J	*
R1656	NRVA02D-1501NY	CHIP MF R	1.5k $\Omega$	*
R1658	NRVA02D-1502NY	MF R	15k $\Omega$	*
△ R1901	QRZ0122-R47	UNF R	0.47 $\Omega$ 3W	*
R1922-23	QRX029J-R22A	MF R	0.22 $\Omega$ 2W J	*
R1941	QRG039J-123A	OM R	12k $\Omega$ 3W J	*
R1947	QRD149J-151S	C R	150 $\Omega$ 1/4W J	*
△ R1961	QRX029J-1R2A	MF R	1.2 $\Omega$ 2W J	*
△ R1962	QRX029J-1R2A	MF R	1.2 $\Omega$ 2W J	*
△ R1964	QRD121J-272SY	C R	2.7k $\Omega$ 1/2W J	*
△ R1965	QRD121J-473SY	C R	47k $\Omega$ 1/2W J	*
△ R1966	QRD121J-223SY	C R	22k $\Omega$ 1/2W J	*
△ R1981	QRZ0111-275U	C R	2.7M $\Omega$ 1/2W	*
C A P A C I T O R				
C1005	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	*
C1101-04	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	*
C1106	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	*
C1131	QFV71HJ-154MZ	TF CAP.	0.15 $\mu$ F 50V J	*
C1132	NCB21HK-152AY	CHIP CAP.	1500 p F 50V K	*
C1134	NCB21HK-102AY	CHIP CAP.	1000 p F 50V K	*
C1135	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	*
C1162	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	*
C1163-64	NCT03CH-470AY	CHIP CAP.	47 p F 50V J	*
C1166	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	*
C1168	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	*
C1205	NCT03CH-680AY	CHIP CAP.	68 p F 50V J	*
C1206	NCT03CH-330AY	CHIP CAP.	33 p F 50V J	*
C1211	NCS21HJ-681AY	CHIP C CAP.	680 p F 50V J	*
C1212	QFV71HJ-104MZ	TF CAP.	0.1 $\mu$ F 50V J	*
C1301	NCT03CH-150AY	CHIP CAP.	15 p F 50V J	*
C1302	NCT03CH-270AY	CHIP CAP.	27 p F 50V J	*
C1303	NCB21HK-103AY	CHIP CAP.	0.01 $\mu$ F 50V K	*
C1305	NCT03CH-100AY	CHIP CAP.	10 p F 50V J	*
C1306	QFLC1HJ-223MZ	M CAP.	0.022 $\mu$ F 50V J	*
C1308	NCT03CH-680AY	CHIP CAP.	68 p F 50V J	*
C1354-55	NCS21HJ-271AY	CHIP C CAP.	270 p F 50V J	*
C1356	NCS21HJ-331AY	CER. CAPACITOR-M	330 p F 50V J	*
C1382	QCZ0121-102A	C CAP.	1000 p F 3kV Z	*
C1402	QEE61CK-225BZ	TAN. CAP.	2.2 $\mu$ F 16V K	*
C1403	NCB21HK-102AY	CHIP CAP.	1000 p F 50V K	*
C1421	QFLC1HJ-103MZ	M CAP.	0.01 $\mu$ F 50V J	*
C1424	QETC1VM-107Z	E CAP.	100 $\mu$ F 35V M	*
C1425	QETC1VM-477Z	E CAP.	470 $\mu$ F 35V M	*
C1426	QFLC2AK-563MZ	M CAP.	0.56 $\mu$ F 100V K	*
C1429	QFV71HJ-224MZ	TF CAP.	0.22 $\mu$ F 50V J	*
C1503	NCB21HK-223AY	CHIP CAP.	0.022 $\mu$ F 50V K	*

△ Symbol No.	Part No.	Part Name	Description	Local
C A P A C I T O R				
C1521	QFN31HJ-332ZJ1	M CAP.	3300 p F 50V J	*
C1522	QFN31HJ-822ZJ1	M CAP.	8200 p F 50V J	*
△ C1524	QFZ0117-1042S	MPP CAP.	10400 p F 1.4kVH ± 2.5%	*
C1525	QFZ0119-434L	MPP CAP.	0.43 μ F 200V	*
C1526	QEZ0203-476	E CAP.	47 μ F 160V	*
C1541	QETC2EM-106Z	E CAP.	10 μ F 250V M	*
C1543	QETB1VM-108	E CAP.	1000 μ F 35V M	*
C1548	QCZ0122-821A	C CAP.	820 p F 2kV K	*
C1561	QETC1VM-107Z	E CAP.	100 μ F 35V M	*
C1581	QFLC1HJ-473MZ	M CAP.	0.047 μ F 50V J	*
C1584	QFLC2AJ-104MZ	M CAP.	0.1 μ F 100V J	*
C1607	QEN61HM-474Z	BP E CAP.	0.47 μ F 50V M	*
C1637-38	NCB21HK-472AY	CHIP CAP.	4700 p F 50V K	*
C1651	NCB21HK-103AY	CHIP CAP.	0.01 μ F 50V K	*
C1654	QFV71HJ-104MZ	TF CAP.	0.1 μ F 50V J	*
C1655	QEN61HM-475Z	BP E CAP.	4.7 μ F 50V M	*
C1656	QEN61HM-105Z	BP E CAP.	1 μ F 50V M	*
C1658	NCB21HK-473AY	CHIP CAP.	0.047 μ F 50V K	*
C1660-61	QFV71HJ-104MZ	TF CAP.	0.1 μ F 50V J	*
C1662	QEE61CK-335BZ	TAN.CAP.	3.3 μ F 16V K	*
C1664	QEE61CK-106BZ	TAN.CAP.	10 μ F 16V K	*
C1669-70	QEN61HM-105Z	BP E CAP.	1 μ F 50V M	*
C1672	NCB21HK-222AY	CHIP CAP.	2200 p F 50V K	*
C1673	QFV71HJ-104MZ	TF CAP.	0.1 μ F 50V J	*
C1675	NCB21HK-222AY	CHIP CAP.	2200 p F 50V K	*
C1676	QFV71HJ-104MZ	TF CAP.	0.1 μ F 50V J	*
C1701	NCT03CH-560AY	CHIP CAP.	56 p F 50V J	*
C1703	NCB21HK-102AY	CHIP CAP.	1000 p F 50V K	*
C1704	NCB21HK-103AY	CHIP CAP.	0.01 μ F 50V K	*
C1706	QFV71HJ-104MZ	TF CAP.	0.1 μ F 50V J	*
C1708	NCS21HJ-221AY	CER.CAPACITOR-M	220 p F 50V J	*
C1709	NCS21HJ-102AY	CER.CAPACITOR-M	1000 p F 50V K	*
C1710	NCT03CH-681AY	CHIP CAP.	680 p F 50V J	*
C1717	QFV71HJ-104MZ	TF CAP.	0.1 μ F 50V J	*
C1718	NCB21HK-103AY	CHIP CAP.	0.01 μ F 50V K	*
C1721	QFV71HJ-104MZ	TF CAP.	0.1 μ F 50V J	*
C1722	NCT03CH-150AY	CHIP CAP.	15 p F 50V J	*
C1723	NCT03CH-390AY	CHIP CAP.	39 p F 50V J	*
C1724	NCB21HK-103AY	CHIP CAP.	0.01 μ F 50V K	*
C1726	NCT03CH-470AY	CHIP CAP.	47 p F 50V J	*
C1735	NCS21HJ-151AY	CER.CAPACITOR-M	150 p F 50V J	*
△ C1901	QFZ9040-104N	MF CAP.	0.1 μ FAC250V	*
△ C1902	QFZ9040-104N	MF CAP.	0.1 μ FAC250V	*
△ C1903	QCZ9031-102U	C CAP.	1000 p FAC125V M	*
△ C1904	QCZ9031-102U	C CAP.	1000 p FAC125V M	*
△ C1906	QETM2DM-337	E CAP.	330 μ F 200V M	*
△ C1907	QFZ9040-473N	MF CAP.	0.047 μ FAC250V	*
△ C1908	QCZ9031-102U	C CAP.	1000 p FAC125V M	*
△ C1909	QCZ9031-102U	C CAP.	1000 p FAC125V M	*
C1921	QCZ0122-222U	C CAP.	2200 p F 2kV K	*
C1922	QFN31HJ-102ZJ1	M CAP.	1000 p F 50V J	*
C1924	QETC1VM-107Z	E CAP.	100 μ F 35V M	*
C1925	QFN31HJ-102ZJ1	M CAP.	1000 p F 50V J	*
C1926	QFN31HJ-392ZJ1	M CAP.	3900 p F 50V J	*
C1931	QCZ0122-391U	C CAP.	390 p F 2kV K	*
C1941	QCZ0122-561U	C CAP.	560 p F 2kV K	*
C1942	QEZ0203-107	E CAP.	100 μ F 160V	*
C1949	QFV71HJ-104MZ	TF CAP.	0.1 μ F 50V J	*
△ C1981	QCZ9052-102A	C CAP.	1000 p FAC250V M	*
△ C1982	QCZ9030-103U	C CAP.	0.01 μ FAC125V M	*
△ C1983	QCZ9030-103U	C CAP.	0.01 μ FAC125V M	*
T R A N S F O R M E R				
T1131	CELT001-209J3	CW TRANSF.		*
T1161	CELT003-109J3	SIF TRANSF.		*
T1521	CE40203-00AJ1	DRIVE TRANSF.		*

△ Symbol No.	Part No.	Part Name	Description	Local
T R A N S F O R M E R				
△ T1522	CE42674-001J1	H.V.TRANSF.		*
△ T1921	CETS059-001J8	SWITCH.TRANSF.		*
C O I L				
L1001	CELP059-150Z	PEAKING COIL	15 $\mu$ H	*
L1003	CELP059-5R6Z	PEAKING COIL	5.6 $\mu$ H	*
L1102	CELP041-R22	PEAKING COIL	0.22 $\mu$ H	*
L1104	CELP059-680Z	PEAKING COIL	68 $\mu$ H	*
L1131	CELP059-220Z	PEAKING COIL	22 $\mu$ H	*
L1161	CELP059-680Z	PEAKING COIL	68 $\mu$ H	*
L1162	CELP059-220Z	PEAKING COIL	22 $\mu$ H	*
L1201	CELP059-150Z	PEAKING COIL	15 $\mu$ H	*
L1202	CELP059-560Z	PEAKING COIL	56 $\mu$ H	*
L1301	CELP059-150Z	PEAKING COIL	15 $\mu$ H	*
L1381	CELP059-390Z	PEAKING COIL	39 $\mu$ H	*
△ L1521	CELL009-003	LINEARITY COIL		*
L1701	CELP059-4R7Z	PEAKING COIL	4.7 $\mu$ H	*
L1703	CELP055-8R2Z	PEAKING COIL	8.2 $\mu$ H	*
L1709	CELP059-100Z	PEAKING COIL	10 $\mu$ H	*
L1941-42	CELC048-820Z	CHOKE COIL		*
D I O D E				
D1001	MTZJ36(A)-T2	ZENER DIODE		*
D1201-04	1SS133-T2	SI.DIODE		*
D1251	MTZJ9.1(C)-T2	ZENER DIODE		*
D1421	1N4003-T2	SI.DIODE		*
D1422	MTZJ75-T2	ZENER DIODE		*
D1501	MTZJ9.1(C)-T2	ZENER DIODE		*
D1511	MTZJ3.3(A)-T2	ZENER DIODE		*
D1541	RH1S-T3	SI.DIODE		*
D1542-43	RGP10J(C1)-T3	SI.DIODE		*
D1561	1SS81-T2	SI.DIODE		*
△ D1562	MTZJ7.5S-T2	ZENER DIODE		*
D1563	1SS133-T2	SI.DIODE		*
D1581	RGP10J(C1)-T3	SI.DIODE		*
D1582	MTZJ9.1(C)-T2	ZENER DIODE		*
D1651-52	MTZJ9.1(C)-T2	ZENER DIODE		*
D1704	1SS133-T2	SI.DIODE		*
D1717-18	MTZJ5.6(A)-T2	ZENER DIODE		*
D1719	1SS133-T2	SI.DIODE		*
△ D1901	D3SBA60	DIODE BRIDGE		*
D1902	MTZJ15(A)-T2	ZENER DIODE		*
D1921-22	RGP10J(C1)-T3	SI.DIODE		*
D1923	MTZJ15(A)-T2	ZENER DIODE		*
D1924	1SS133-T2	SI.DIODE		*
D1941	RU3AM-LFC4	SI.DIODE		*
D1942	RGP10J(C1)-T3	SI.DIODE		*
D1943	1SS133-T2	SI.DIODE		*
D1944	MTZJ7.5(B)-T2	ZENER DIODE		*
D1945-46	1SS133-T2	SI.DIODE		*
D1948	RGP10J(C1)-T3	SI.DIODE		*
△ D1961	MTZJ7.5S-T2	ZENER DIODE		*
D1962	MTZJ9.1(C)-T2	ZENER DIODE		*
T R A N S I S T O R				
Q1101	2SC5083(L-P)-T	SI.TRANSISTOR		*
Q1131-32	2SC2412K(QR)-X	SI.TRANSISTOR		*
Q1161	2SC2412K(QR)-X	SI.TRANSISTOR		*
Q1201-04	2SC2412K(QR)-X	SI.TRANSISTOR		*
Q1301-02	2SC2412K(QR)-X	SI.TRANSISTOR		*
Q1351-53	2SC4544-C1	SI.TRANSISTOR		*
Q1521	2SC1627A(OY)-T	SI.TRANSISTOR		*
△ Q1522	2SD1878-YD	SI.TRANSISTOR	H.OUT	*
Q1601	2SC2412K(QR)-X	SI.TRANSISTOR		*
Q1602-03	DTC124EKA-X	DIGI.TRANSISTOR		*
Q1651-54	2SC2412K(QR)-X	SI.TRANSISTOR		*
Q1701-02	2SC2412K(QR)-X	SI.TRANSISTOR		*

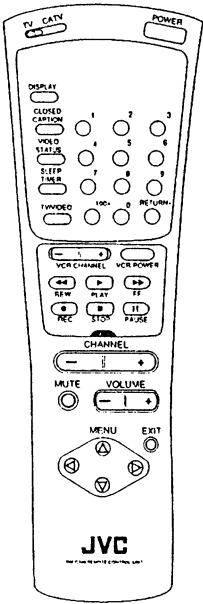
△ Symbol No.	Part No.	Part Name	Description	Local
T R A N S I S T O R				
Q1703	DTC124EKA-X	DIGI. TRANSISTOR		*
Q1705	DTC124EKA-X	DIGI. TRANSISTOR		*
Q1921	2SA933AS(QR)-T	SI. TRANSISTOR		*
Q1941	2SA966(OY)-T	SI. TRANSISTOR		*
Q1942-45	2SC1740S(QR)-T	SI. TRANSISTOR		*
△ Q1961	2SA949(Y)C1-T	SI. TRANSISTOR		*
I C				
IC1001	KIA78L05BP-Y	I.C. (MONO-ANA)		*
IC1201	TA1242N	I C		*
IC1251	BA7612N	I.C. (MONO-ANA)		*
△ IC1421	LA7832	I.C. (MONO-ANA)		*
IC1541	KIA7809PI	I.C. (MONO-ANA)		*
△ IC1601	LA4485	I.C. (MONO-ANA)		*
IC1651	UPC1851ACU	I.C.		*
IC1652	BA15218N	I.C. (MONO-ANA)		*
IC1701	M37267M8-213SP	I.C. (MICRO-COMP)		
IC1702	AT24C02-20820	I.C. (EP-ROM)	(SERVICE)	*
IC1703	L78LR05E-MA	I.C. (MONO-ANA)		*
△ IC1921	STR-F6514	I.C.		*
△ IC1941	SE130N	I.C. (H)		*
O T H E R S				
	CM45963-004-H	SHIELD PLATE		*
CF1001	FTP47.25MF	CERAMIC FILTER		*
CF1131	CE41505-001	CERAMIC FILTER		*
CF1161	SFSH4.5MCB	CERAMIC FILTER		*
CF1501	CSB503F30-T2	CER. RESONATOR		*
△ F1901	QMF0007-5R0J1	FUSE	5.0A	*
J1001	CEMN065-001	PIN JACK		*
J1002	CEMN094-001	PIN JACK		*
K1921	QQR0621-001Z	BEADS CORE		*
K1941-43	QQR0582-001Z	BEADS CORE		*
△ LF1901	CE42335-001J1	LINE FILTER		*
△ LF1902	CELF008-001J5	LINE FILTER		*
△ PC1921	TLP621(B)	I.C. (PH. COUPLER)		*
△ PC1923	TLP621(B)	I.C. (PH. COUPLER)		*
△ RY1921	CESK028-001	RELAY		*
SF1101	CE42589-201	SAW FILTER		*
△ SK1351	CE42535-001J1	CRT SOCKET		*
△ TH1901	CEKP007-002	P. THERMISTOR		*
△ TU1001	CEEM270-B01	TUNER		*
△ VA1901	ERZV10V361CS	ZINC N RESISTOR		*
X1301	CE41651-001Z	CRYSTAL		*
X1701	CST8.00MTW	CER. RESONATOR		*

## FRONT CONTROL PW BOARD ASS'Y (SFA-4001A-M2)

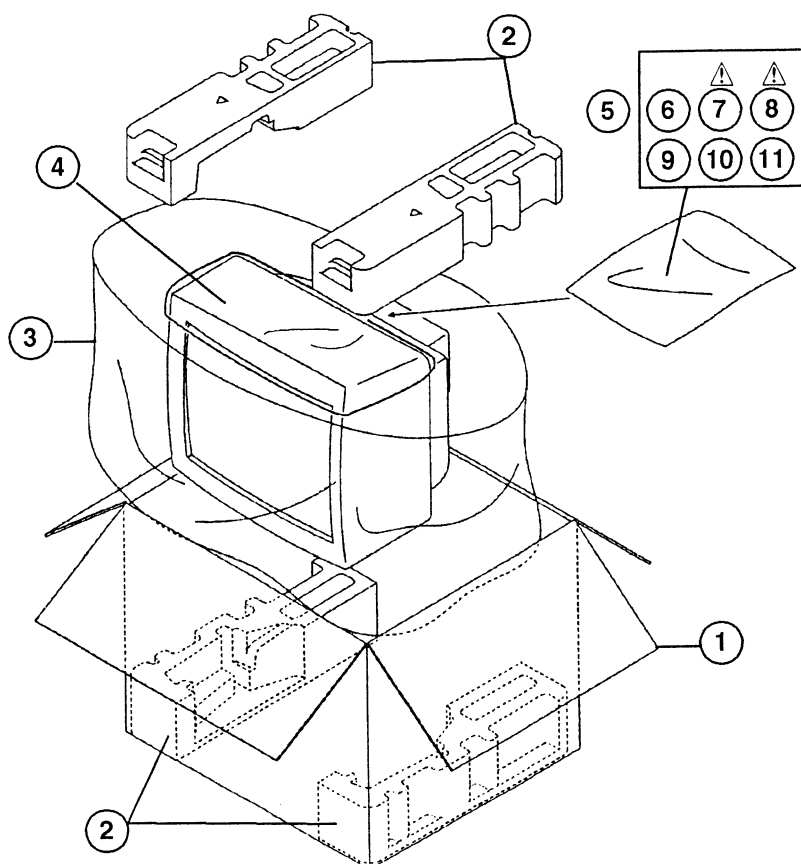
△ Symbol No.	Part No.	Part Name	Description	Local
D I O D E				
D4701	GL2PR6	L.E.D. (RED)		*
T R A N S I S T O R				
Q4701-02	DTA124ESA-T	DIGI. TRANSISTOR		*
I C				
IC4701	HC-337MN	IFR DETECT UNIT		*
O T H E R S				
	CM46978-A01-H	L.E.D. HOLDER		*
S4701	QSP1A11-C19Z	PUSH SWITCH	MENU	*
S4702	QSP1A11-C19Z	PUSH SWITCH	CH-	*
S4703	QSP1A11-C19Z	PUSH SWITCH	CH+	*
S4704	QSP1A11-C19Z	PUSH SWITCH	VOL-	*
S4705	QSP1A11-C19Z	PUSH SWITCH	VOL+	*
S4706	QSP1A11-C19Z	PUSH SWITCH	POWER	*

REMOTE CONTROL UNIT PARTS LIST [RM-C746-1C]

△ Ref.No.	Part No.	Part Name	Description	Local
	2AA015250	BATTERY COVER		



## PACKING



## PACKING PARTS LIST

△ Ref.No.	Part No.	Part Name	Description	Local
[America model]				
1	CP11499-A02-A	PACKING CASE	4pcs in 1set	*
2	CP11536-A0D-A	CUSHION ASSY		*
3	CP30056-008-A	POLY BAG		*
4	CP30055-001-A	TOP COVER		*
5	QPGA025-03505A	POLY BAG	(ENGLISH)	*
6	RM-C746-1C	REMOCON UNIT		*
△ 7	CQ40356-001-A	INST.BOOK		*
9	BT-51006-1Q	REGISTER CARD		*
[Canada model]				
1	CP11499-A02-A	PACKING CASE	4pcs in 1set	*
2	CP11536-A0D-A	CUSHION ASSY		*
3	CP30056-008-A	POLY BAG		*
4	CP30055-001-A	TOP COVER		*
5	QPGA025-03505A	POLY BAG	(ENGLISH)	*
6	RM-C746-1C	REMOCON UNIT		*
△ 7	CQ40356-001-A	INST.BOOK		*
△ 8	CQ40357-001-A	INST.BOOK		(FRENCH)
10	BT-20071B-Q	SVC CENTER LIST		*
11	BT-52002-1Q	WARRANTY CARD		*

## **JVC SERVICE & ENGINEERING COMPANY OF AMERICA DIVISION OF US JVC CORP.**

<b>Head office</b>	: 107 Little Falls Road, Fairfield, New Jersey 07004	(201)808-9279
<b>(East Coast)</b>		
<b>Midwest</b>	: 705 Enterprise St. Aurora, Illinois 60504	(630)851-7855
<b>West Coast</b>	: 5665 Corporate Avenue, Cypress, California 90630	(714)229-8011
<b>Southeast</b>	: 1500 Lakes Parkway, Lawrenceville, Georgia 30243	(770)339-2522
<b>Hawaii</b>	: 2969 Mapunapuna Place, Honolulu, Hawaii 96819	(808)833-5828

## **JVC CANADA INC.**

<b>Head office</b>	: 21 Finchdene Square Scarborough, Ontario M1X 1A7	(416)293-1311
<b>Vancouver</b>	: 13040 Worster Court Richmond B.C. V6V 2B3	(604)270-1311

# **JVC**

# JVC

Manual Change Information

## SERVICE MANUAL

### COLOR TELEVISION

# AV-27820

(US&amp;CA)

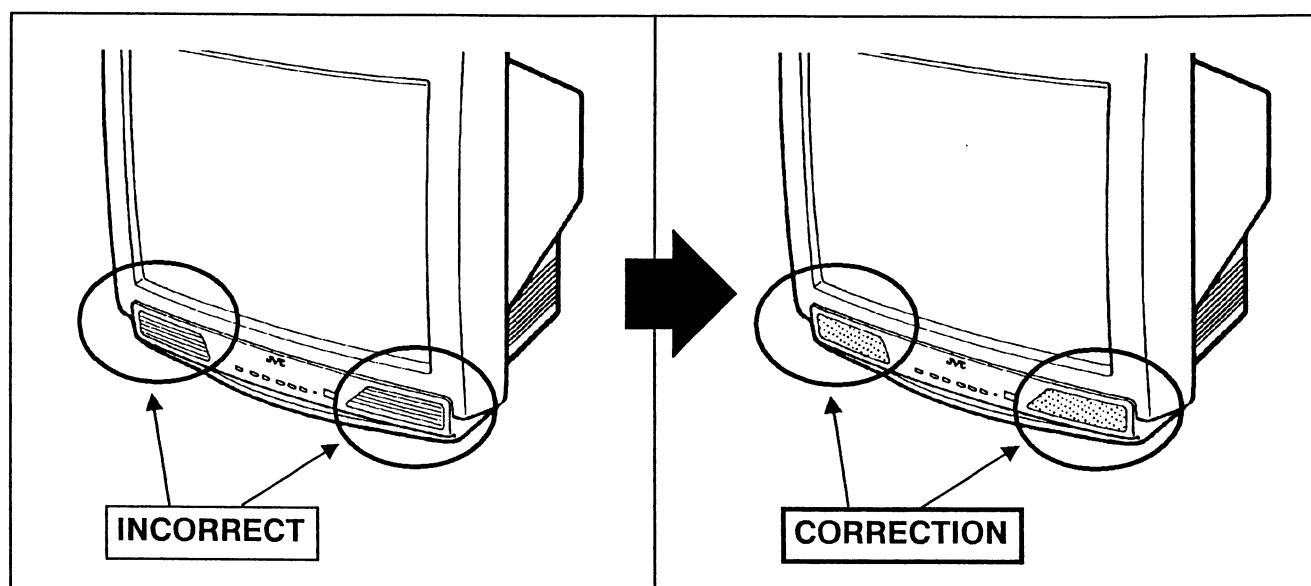
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FA

Since some details (Illustrations) of the AV-27820(US&CA) service manual (No.51197, Feb. 1997) were incorrect, we are informing you of these errors and of the correct descriptions.

### ■ CORRECTED ITEMS

COVER PAGE ILLUSTRATION ..... [Cover page]  
EXPLODED VIEW ILLUSTRATION ..... [Page 27]



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